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BUREAU OF EDUCATION
CIRCULAR OF INFORMATION NO. 4, 1891

CONTRIBUTIONS TO AMERICAN EDUCATIONAL HISTORY
EDITED BY HERBERT B. ADAMS

No. 11.

HISTORY OF HIGHER EDUCATION

IN

MICHIGAN

BY

ANDREW C. McLAUGHLIN

ASSISTANT PROFESSOR OF HISTORY IN THE UNIVERSITY OF MICHIGAN.

WASHINGTON
GOVERNMENT PRINTING OFFICE
1891



THE UNIVERSITY OF MICHIGAN AS IT APPEARED IN 1865.

Frontispiece.

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CONTENTS.

CHAPTER I.—EARLY HISTORY OF MICHIGAN.

	Page
Character of Early Inhabitants.....	9
New Englanders in Michigan.....	11
Newspapers.....	13
Early Schools—Father Richard's School	14
Continued Ignorance of the French.....	15
State Schools	17

CHAPTER II.—LAND GRANTS AND THEIR DISPOSITION.

National Aid.....	18
Michigan Territory Established.....	19
Treaty of Fort Meigs.....	20
Selection of Lands under Act of 1804.....	20
Act of 1826	21
Disposition of Lands.....	22
Superintendent's Report.....	24
Sales	24
Crisis of 1837 and Results.....	25
Legislative Acts	25
Fund Received from Sales.....	26
\$100,000 Loan.....	27

CHAPTER III.—ORGANIZATION AND PROGRESS OF UNIVERSITY IN TERRITORIAL PERIOD.

Judge Woodward	29
Catholepistemiad	29
Gabriel Richard and John Monteith	31
The Plan	32
Early Regulations	32
Act of 1821	32

CHAPTER IV.—ORGANIZATION OF THE STATE UNIVERSITY.

Mr. Crary	34
The State Constitution.....	34
Mr. Pierce	35
The University	35
Comprehensiveness of the Plan.....	38
Branches	37
Abolishment of Branches.....	38
Distribution of Money.....	38

CHAPTER V.—THE UNIVERSITY FROM 1837 TO 1852.

	Page.
The Location, etc	39
Collection of Minerals, Library, etc	40
Appointments	41
Requirements for Admission	41
Course of Study	41
Advancement	42
Medical School	42
“ Society War ”	44
Legislature or Regents	44
The New Constitution	45
Last Days under Old Constitution	45

CHAPTER VI.—PRESIDENT TAPPAN'S ADMINISTRATION.

President elected	47
Schoolmaster Methods Give Place to University Methods	48
Faculty Chosen	49
Observatory	50
New Professors	50
Dormitories Abolished, etc	52
Students not a Distinct and Privileged Order	52
Scientific Course	52
People's University	53
Chemical Laboratory	54
Law Department	54
Rotation in Office Poor Principle for the Government of University	55
Resignation of President Tappan	56

CHAPTER VII.—PRESIDENT HAVEN'S ADMINISTRATION.

Difficulties in Administration	59
Medical Department Assisted	60
Prosperity of the Institution	60
Needs of the University	60
Attempts to obtain Assistance from the Legislature	61
The Homeopathic Question	61
Latin and Scientific Course	62
President Haven's Resignation	63
Progress of the University during His Administration	63

CHAPTER VIII.—ADMINISTRATION OF ACTING PRESIDENT FRIEZE.

His Broad Conception of University Methods and Development	65
Admission of Women	66
The Prussian System Realized	70
The “ Diploma Schools ”	71
Gift from Legislature	72

CHAPTER IX.—PRESIDENT ANGELL'S ADMINISTRATION.

Progress of University during this Administration	73
Financial Aid	74
School of Mines	75
Homeopathic College	75
Dental College	76
Requirements for Graduation	78

	Page.
Elective System	78
Select Students	78
How the Elective System is Applied	78
The Credit System	79
English Course	80
The "University System"	80
The School of Political Science	81
Science and Art of Teaching	81
Library Building	82
Library	82
Fine Arts and History Collection	83
Studies for Advanced Degrees	84
Income	84
Courses Offered	85

CHAPTER X.—LABORATORIES OF THE UNIVERSITY OF MICHIGAN.

The Hygienic Laboratory	86
The Physical Laboratory	88
The Engineering Laboratory	90

CHAPTER XI.—BIBLIOGRAPHY..... 96

THE STATE NORMAL SCHOOL, by J. M. B. Sill, principal	98
THE STATE AGRICULTURAL COLLEGE, by President O. Clute	105
MICHIGAN MINING SCHOOL, by M. E. Wadsworth, director	116
HILLSDALE COLLEGE, by Prof. S. W. Norton	124
KALAMAZOO COLLEGE, by Rev. Samuel Haskell	133
OLIVET COLLEGE, by Prof. J. S. Daniels	138
ALBION COLLEGE, by Rev. L. R. Fiske, president	145
ADRIAN COLLEGE, by G. B. McElroy, acting president	157
HOPE COLLEGE, by Rev. Charles Scott, president	160
ALMA COLLEGE, by Rev. George F. Hunting, president	164
DETROIT COLLEGE, by Prof. B. J. Otting	166
BATTLE CREEK COLLEGE	171
COMMON SCHOOLS AND SECONDARY EDUCATION	175



ILLUSTRATIONS.

	Page.
University of Michigan:	
The University as it appeared in 1865	1
Observatory	50
Chemical laboratory	54
Law building	56
Medical building	60
University hall	76
Library building	82
Museum building	82
Art gallery	84
Physical and hygienic laboratory	88
Engineering laboratory	92
State Normal School, Ypsilanti	100
Hillsdale College, Hillsdale	126
Olivet College, Olivet	140
Albion College	146
Astronomical observatory of Albion College	148
Central building of Albion College	152
Adrian College	158
Hope College, Holland	162
Detroit College:	
First building used for class purposes	167
New building, erected in 1889-90	168
Main entrance of new building, chapel, and library	168

CHAPTER I.

EARLY HISTORY OF MICHIGAN.

The history of Michigan begins with the early exploration of the bold French traders and missionaries who were acquainted with the West many years before the English had left the sound of the sea behind them. Settlements of wandering bushrangers and lawless, rollicking furtraders were scattered through the Northern Lake region even as early as the latter half of the seventeenth century.

But Michigan was not permanently colonized by responsible settlers in a manner to come directly under the influence and control of Canadian authority until 1701, when La Motte Cadillac brought to the straits a company of gentlemen, traders and artisans, and founded Fort Pontchartrain, an outpost against British aggression and a real colony for the advancement of French interests. His quick eye had caught the military advantages of the location and his broad comprehension had compassed ideas of the spread of French influence from Detroit as a center. He seems to have had the thought of establishing a colony on English principles, one to a great extent independent, self-sufficient, a center for influence, a self-developing, subordinate state. He desired to lead the Indians to civilization by example and precept, to accustom them to French habits of life, to organize them into companies of soldiers, and subject them to military discipline. He urged that an expedition be sent out to look for minerals, suggested the raising of silkworms and the beginning of the silk trade, and offered to provide the means of establishing a seminary where Indians as well as French could receive instruction. But Cadillac was a man of too much comprehension and of too liberal ideas quietly to succeed and to harmonize with narrower minds in the settlement. He was ahead of his time, and if we are to judge from the history of French colonization on this continent his ideas of common popular education were at least ultra patriotic. And yet we can imagine what were the needs of a school system when we are told of the magnificent proportions of some of the Detroit families of those primitive days. Though in after days there was at times a dearth of women and many were the calls for wives from the bachelor settlers, the first settlers seem to have come with their families. One habitant is reported to have had a family of thirty children, some of whom one would think might have been called by Cadillac's proposed seminary

from the ways of mischief to those of usefulness. But popular education was an unknown condition in the days of the French occupancy.

The bushranger and voyageur did not form the only element in Detroit as they did in many of the settlements of the Northwest, nor was the direction of the city's development marked out by the lawless and degraded. The first settlers of Detroit were probably of good blood, with some little capacity for governmental affairs and a readiness in industry. Doubtless the *coureur des bois* often found his way into Detroit, and the watermen settled near the stockade or took up some straggling farm in the vicinity. There were uncouth and rough elements at all times that were not softened or soothed by the charms of the French village. Often the Indians were shouting in drunken exaltation in the streets. Often the trader was spending in profusion his winter's gains as he did at Montreal, in the fashion so graphically described by Parkman.

A few Dutch came in after 1763 and some English traders also. The frugal and thrifty Scotch, who soon made their way into the Western country, seem strangely enough to have found points of contact with the French and to have come into a more friendly relation with them than the other nationalities did. When the Americans became possessed of the country in 1796 their ways in law and government were dark to the Frenchman, who had been used to unquestioning obedience to absolutism. The fuss and flourish over legal procedure and popular government seemed vain indeed to the plain habitant, unconscious of the legislation enacted by his new governor in an unknown tongue. Although the Frenchman retained his hatred for the English and could usually be counted on as a sympathizer with the Americans in the troubles between the two nations, the American push and scramble were always incomprehensible to him, while the American often roughly disregarded the conservative tendencies of the early inhabitants of Detroit. It was of course annoying to the energetic citizens of a growing city to be obliged to carry on unnecessary negotiations for a farm that lay as an obstruction to a desired street and a barrier to business extension. The contented French farmer, scarcely raising enough from his farm to keep him from want, ignorant of his poverty, refused to sell his farm for twice or thrice its value, and often remained through life utterly without comprehension of what commercial development signified. Public lands were kept from the market till 1818, and for various reasons, one of which was the old French conservatism and another an absurd and truthless description of the lands given by Government surveyors, Michigan did not become prosperously American till the fourth decade of the century, though there are indications of prosperity and considerable immigration in the third. In fact it may well be kept in mind in studying the history of education in Michigan that the State did not begin a very rapid march in population or business enterprise until about 1850. The history of Michigan thus presents rather a stumbling, halting progress, and we may expect to see the same phases in educa-

tional development, and to find early events forming a restraining or fashioning influence.

The century was well on before the Indian title had been extinguished to more than a strip of land near Detroit. By the treaty of Saginaw, 1819, Governor Cass opened up a large portion for settlement, and at Chicago, in 1821, he obtained for the Government lands in the South and West that were slowly taken up by the bold American farmers, who with characteristic self-reliance made their way into the Western country, taking with them, however weather-stained and rough they seem, the institutional instinct of the Englishman, an appreciation of American citizenship, and a respect for education and the educated. Not till after the opening of the Erie Canal did Michigan begin to fill up in the least after the manner of her sister States of the Northwest Territory, to which the broad Ohio offered a natural highway for the emigrant. But through the Erie Canal came the New Englander, whose ideas of local self-government can be seen in the Michigan township, and the New Yorker, whose stirring presence is evident in school and State. The Frenchmen wondered at this close business method that characterized the shrewd Yankee, and even the conservative Scotch often opened their eyes. We may expect, considering these facts, to see New England methods in education and New England desire for its utilitarian presence. We shall find that the New Englander in Michigan (and the emigrants from New York were often New England people who had settled previously in the Empire State) evinced, as did the early settlers in Massachusetts, a desire that learning should not be "buried in the graves of their fathers." It is worth while noting the characteristics of Michigan settlement, for the comparison between Michigan and Massachusetts in educational matters, so often made in these days, is not entirely fanciful and without foundation. As the New England ideas of local self-government, however great may have been their influence throughout the country, have best developed westward, following the parallels of latitude, so New England education has permeated along the same lines of sectional progress. About 1830 immigration began in earnest. Gazetteers and maps had done their work. Fifteen thousand immigrants were estimated to have come in during that year,¹ and in the years that followed, till the crash of 1837 stopped the wheels of progress, numbers do not seem to have fallen below this figure. The writers who visited Michigan during those years speak of the crowds that filled steamboat and stage.

To say nothing of those who have arrived by land, and through Lake Erie by sail vessel, the following steamboats arrived here within the last week: The *Enterprise*, with 250 passengers; the *Wm. Penn*, 150; the *Ohio*, 350; the *Henry Clay*, 480; the *Superior*, 550; the *Sheldon Thompson*, 200; the *Niagara*, 200; amounting to more than 2,000, and nearly all in the prime of life, mostly heads of families who have come for the purpose of purchasing land and settling in Michigan.—[Free Press, May 19, 1831, quoted in Farmer's History of Detroit and Michigan, p. 335.

¹ Farmer's Hist. of Detroit and Michigan, p. 385.

Settlers with their wagons crowded the western roads or forced their way through the forests to establish themselves alone. Michigan, with its pine woods, was the western haven for consumptives, and indeed general good health seemed to prevail, despite the fact that we read of ague and malarial fevers and that he was considered fortunate in parts of the country who escaped with only one "shake" per day. Young professional men of good education, allured by tales of healthy breezes or attracted by the stir and excitement of western settlement, sometimes found their way to a cabin in Michigan. During 1837 the immigration continued from New York and New England especially, so that Michigan probably has a larger percentage of people from those parts of the country than has any other of the Western States. At one time we are told that it seemed as if all New England were on the point of moving westward. A Michigan fever threatened to become fatally epidemic in every New England town. Various songs, of doubtful poetic merit, were used to incite the timid "to have mettle hearts." The following stanza will illustrate their cheering quality:

Come all ye Yankee farmers who wish to change your lot,
 Who've spunk enough to travel beyond your native spot,
 And leave behind the village where pa and ma do stay,
 Come follow me and settle in Michigania—
 Yea, yea, yea; in Michigania.

This tide of immigration, of course, soon swept Michigan into the Union. Though the basis of a liberal superstructure for education had been laid in the days of uncertain and unorganized territorial existence, when half or more of the population was French, we must remember this influx from the East and notice that the real plan and scope of the work was outlined and the structure begun in the days of early statehood, or at least in response to the energetic call which came from the pushing eastern immigrants. Michigan was then puffed up with grand ideas and inflated with prospects which have indeed been realized, but which required vigorous faith or a reckless hope that is not always prophetic. We may remember that the University was born in the very heyday of Michigan's youth, when all her veins were full of new blood, and she was unwearied and was not despondent because of hope deferred.

In the 20 years that followed the treaty of Ghent the change in Michigan was from a wilderness to a prosperous State. One can scarcely exaggerate the change of those years in manners and customs, in business enterprise, in governmental methods, and even in the physical condition of the country. The territorial government in its first stage gives little opportunity for individual expression or popular control. But Governor Cass, during an administration of some 18 years—from 1813 to 1831—gave to the people, at various times and as the opportunity offered, chances to express preferences in matters of state, and thus prepared them for the complete self-government that would come with

statehood. Michigan long remained in a condition of tutelage, but the apprenticeship was a necessary one, and happily her second governor was filled with ideas of popular sovereignty and possessed of a wide sympathy.

The beginnings of general education in Michigan might well be traced perhaps to the printing press. Various papers were published throughout the Northwest before 1800. Cincinnati and Chillicothe early had this means of enlightenment. But in early Detroit the town-crier was the only publisher, and seems to have done his work satisfactorily to the French for years. The church, the center of Roman Catholic life, was the center for news distribution, and at the close of the weekly services the familiar notices were read to the waiting congregation. We are told that even auction sales and the horse races were thus announced, and as time went on an Episcopal lay reader published the time of the next fox hunt or like interesting event. Printing found its way but slowly among a people who had been accustomed to repression. The first newspaper that held up its ambitious head in Detroit was *The Michigan Essay or Impartial Observer*, first published August 31, 1809. The printing and publishing of the paper have generally been credited to good Father Richard, who was prominent in those days in many things of interest to the Territory. He probably brought to Detroit the printing press on which the paper was printed, but he was not the publisher; for it appears on the paper that it was printed and published by James M. Miller.¹

The paper, to say the least, had a short life. There seems to be no positive proof that more than one number was issued, though there is no proof that there was no more. Part of it was printed in French and it had various pretenses to literary flavor, with extracts from Young's *Night Thoughts* and from *Ossian*. The *Detroit Gazette*, that lived some 13 years, had rather a prosperous existence under the patronage of Governor Cass, at whose suggestion it seems to have been established. The type was often poorly set and its turbulent condition often suggested an unsteady compositor, but withal it was an educating and elevating presence in the Territory. Occasionally it dropped into personal abuse and became somewhat too trenchant for the pleasure of all concerned, so that Mr. Sheldon, the editor, at one time found himself in the Wayne County jail as a penalty for criticising somewhat too freely the action of the Supreme Court. Detroit, however, was found sympathetic in the extreme and he was toasted and feasted to his eminent satisfaction. But advertising even of this popular nature failed to bring sufficient funds into the editorial till, and he complains bitterly that "Sometimes we get a pig or a load of pumpkins, and once in a great

¹ Recent investigations by Mr. Farmer substantiate this statement, although Judge Campbell, in his *History of Michigan*, states that Gabriel Richard was the publisher, as does also Mr. Andrew Ten Brook in his book entitled *American State Universities*, etc., to both of which works I often refer in this sketch.

while there is a man who pays cash for his paper." Under these circumstances the aggressive paper came to its end April 22, 1830. The Michigan Herald was issued between 1825 and 1829. A few issues of the Gazette Française appeared from the Michigan Gazette Office, as an appeal to the French of the province, and some other papers led feeble lives of a few years, before Michigan entered into statehood, when a whole crop seemed suddenly to rise from the ground. But these, too, lasted but a short time. The Democratic Free Press and Michigan Intelligencer, however, appeared in May, 1831, and have maintained a vigorous life ever since.

With this sketch of Michigan's early condition and settlement, and the means offered for general circulation of news and for popular enlightenment, let us see a little more definitely what was the condition of popular education, what schools or seminaries, if any, existed in the few years before the establishment of the university and the more vigorous and generous efforts for the distribution of learning. Illiterate doubtless the many French citizens of Detroit were, as has been suggested, and so they continued to be in the years of American domination. But we must not be carried away by the sweeping generalities of writers anxious to send back to the East picturesque sketches of Western life. An examination of public records¹ of Michigan will indicate that writing was not an unknown art and many signatures argue a familiarity with the pen. French words are often misspelt, as if there were numerous advocates of a more recent spelling reform movement, but he who has looked at the letters of some of our early statesmen will not hasten to proclaim utter incapacity as a result of orthographical ignorance. Montreal and Quebec sometimes received for education the children of the more prosperous French settlers or of those unusually ambitious.² Occasionally the English settlers sent their children to the East. Research has discovered traces of a school which seems to have existed at Detroit as early as 1775. There was evidently one as early as 1790, and after the Americans began to come in, when the English gave up the western forts, several schools appeared. In 1797, Miss Pattison and John Burrell appear as teachers. The latter taught for several years. Matthew Donovan and Monsieur Serrier are names of others of that period, the latter gentleman being an irresponsible erratic fellow, who was often in an indeterminate state between drunkenness and insanity. At the beginning of the century Rev. David Bacon opened a school and his wife offered the benefit of an education to girls. But we are told that the prejudice against the Yankees reached even to a Yankee education and the venture did not thrive. For some 10 years from 1806 John Goff, a sour, drunken Orbilius, carried on a disorderly school, his success, if he had any, being due in great measure to the wifely assistance of Mrs. Goff, who seems to have had a more sober disposition and a much sweeter

¹ Campbell, History of Michigan, p. 254.

² Farmer, Hist. of Detroit and Michigan, p. 715.

temper. Something like higher education may be seen to emerge from this humble chaos in a certain classical school that was kept up by Mr. Payne in the years between 1812 and 1818. But from our knowledge of the disorderly condition of Michigan in the first half of that period, one feels like predicating an unsatisfactory curriculum and like hinting at the lack of very profound classical erudition. But these are all stepping stones to better things, and possibly one may even make the stony metaphor apply to the school of a certain Mr. Danforth, who opened a school on June 10, 1816, and is reported to have had 40 scholars soon after. The violence of his temper will bear a close comparison with some of the schoolmasters already mentioned, and for brutal exhibitions perhaps he may be given the front rank. Throwing a ruler across the schoolroom at the head of a pupil was varied on one occasion by the use of an open jackknife as a missile, and we are somewhat relieved to learn that indignant parents finally wearied of his brutalities and drove him across the river, where it may be hoped he found more useful occupation and one better suited to his virile nature.

Church schools were perhaps somewhat more vigorous than the private schools above described. Even in 1755 we find that there was a director of the Christian school, and in 1804 Father Richard established a ladies' academy, and about the same time a school for young men, where Latin and history, as well as geography and music, appear as subjects of study. If one realizes the utter incompetence of many of the French settlers of Michigan, their ignorance of the common trades or the duties of the home, their entire lack of appreciation of the necessary methods of obtaining fair returns from their farms, their content often with semi-poverty when competence awaited thrift or a reasonable acquaintance with the means and methods which an intelligent American farmer seemed to know without learning; if one realizes how great a proportion of the population the French Canadians were, and that their descendants, even in later days, were noticeable material in the superstructure of a prosperous State, he will ask no excuse for the introduction of even the first portion of the following report from the watchful priest, showing the beginnings of an industrial and literary education, which are necessary for the existence of a higher education in our modern sense :

Besides the English schools in the town of Detroit there are four primary schools for boys and two for our young ladies, either in town or at Spring Hill, at Grand Marais, even at River Hurons. Three of these schools are kept by the natives of the country, who have received their first education by the Reverend Mr. Dilhet. At Spring Hill, under the direction of Angelique Campan and Elizabeth Lyons, as early as September last, the number of scholars has been augmented by four young Indians, headed by an old matron, their grandmother, of the Pottawatomic tribe. In Detroit, in the house lately the property of Captain Elliott, purchased by the subscriber for the very purpose of establishing an academy for young ladies under the direction of Miss Elizabeth Williams, there are better than thirty young girls who are taught, as at Spring Hill, reading, writing, arithmetic, knitting, sewing, spinning, etc. In these two schools there are already three dozen of spinning wheels

and one loom, on which four pieces of linen or woollen cloth have been made this last spring or summer. To encourage the young students by the allowment of pleasure and amusements, the undersigned have these three months past sent orders to New York for a spinning machine of about 100 spindles, an air-pump, an electric apparatus, etc. As they could not be found he is to receive them this fall, also an electrical machine, a number of cards, and a few colors for dyeing the stuff already made or to be made in this academy.

It would be very necessary to have in Detroit a public building for a similar academy, in which the higher branches of mathematics, most important languages, geography, history, natural and moral philosophy should be taught to young gentlemen of our country, and in which should be kept the machines the most necessary for the improvement of useful arts, for making the most necessary physical experiments, and framing a beginning of a Public Library.

The undersigned, acting as administrator for the said academies, further prays that one of the four Lotteries authorized by the Hon. Leg. on the 9th day of 7 ber (Sept.), 1806, be left to the management of the subscriber.

GABRIEL RICHARD.

DETROIT, 8 ber (Oct.) 18, N. S. 1808.

The plans for industrial education may have accomplished something, though we are disappointed in discovering, 10 years later, a lamentable ignorance of loom and spinning wheel among a great number of the French in the Territory. But in the latter part of this letter is shadowed forth a true college, with legislative support, which the writer seems to honor by the capital letter with which he begins "lotteries," even if he does abbreviate the legislature and give the date of the act establishing the lotteries one year too late. For one of the first things done by the governor and judges who alternately governed and quarreled during the first 8 years of the Territory was to authorize the establishment of four lotteries for the raising of \$20,000 for the promotion of literature and the improvement of Detroit. The lotteries, however, were never established, and Detroit, which then, of course, was essentially Michigan, lacked this means of "improvement." A church school seems to have been located at an early day in Hamtramck, on the church farm, and this school, after some vicissitudes, developed into St. Philips College,¹ and yet these early efforts at education were not entirely successful, if we judge by an editorial which appeared in the Gazette of August 8, 1817:

Frenchmen of the Territory of Michigan! You ought to begin immediately to give an education to your children. In a little while there will be in this Territory as many Yankees as French, and if you do not have your children educated the situations will all be given to the Yankees. No man is capable of serving as a civil and military officer unless he can, at least, read and write. There are many young people of from 18 to 20 years who have not learned to read, but they are not yet too old to learn. I have known those who have learned to read at the age of 40 years.

Various schools appeared in the next 20 years, some of which received public aid and encouragement, but the first school called semi-

¹ In Farmer's History of Detroit and Michigan are collected many interesting details regarding the growth of private and church schools. The writer of this monograph has found great assistance from the details there given with so much care, after great painstaking and research.

nary that really had a corporate existence was a young ladies' seminary, incorporated in March, 1830, with Governor Lewis Cass as president and his friend and companion, C. C. Trowbridge, as treasurer. It is noticeable that this seminary received governmental aid, for the governor and judges granted a great portion of the ground on which the Detroit City Hall is now located on condition that a suitable building should be erected before 1835. A building was erected within the stated time and a school was kept there until 1842, when the building was transferred to the State in trust for the university.

As early as 1802 there was a request before Congress for aid in establishing common schools, and possibly this petition encouraged Congress to the notable act of giving section sixteen in every township for school purposes, as had been done previously in grants to the Ohio Company. The act of March 26, 1804, was the foundation of the primary school fund of the State. Sunday, February 26, 1809, the governor and judges of Michigan Territory framed "An act concerning schools," providing for the division of poor districts into school districts, and the laying of public taxes for their support. But the act is interesting rather as a step toward public education than because of any immediate result. Not until 1827 were there any vigorous efforts in the direction of popular education, at which time an act authorized each township to determine by a two-thirds vote whether it would support a school, and if the vote was favorable the township was authorized to secure the services of a "grammar school master of good morals." And from this time on we find various acts for the encouragement of general education, and there are indications of some zeal in carrying out the purpose of the acts. But beyond showing the extent of early popular interest in educational matters and suggesting a popular basis for higher education, it is not the intention here to give a general description of the growth of the common school system in the States. But this substratum so necessary for the proper support of institutions of higher education we must pass with a word of congratulation and an acknowledgment of the debt the university and colleges in the State owe to those who have so wisely built up and so carefully managed the common and secondary schools of Michigan.

With this outline of the settlement and growth of the Territory and State, its peculiar conditions, and the difficulties of early years in the way of progress in education, we may perhaps more clearly perceive the immense advance of Michigan; how remarkable in many ways has been her progress upward and onward in offering means for popular enlightenment and furnishing opportunity to all to acquire a superior education under the best of circumstances.

CHAPTER II.

LAND GRANTS AND THEIR DISPOSITION.

All accounts of the development of higher education in any State formed from the old Northwest Territory must begin with quoting the famous Ordinance of 1787, which has influenced in so many ways the growth and development of the country for which it was a charter. "Religion, morality, and knowledge, being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged." We can hardly doubt that these words stimulated Congressional action. The grant made this same year to the New England Ohio Company contained many reservations in the spirit of this provision, and these became precedents for future action by Congress in reference to lands within newly formed territories. There have been many controversies regarding the justice of giving to a new State land owned by the United States, when the funds from the sale of the land were to be used for purposes of education within the State itself. An article in the *New Englander* as late as August, 1854, will show that not yet were the old States reconciled to this generosity :

Of late the Western States claim the entire right to these lands, and the Eastern States, partners in the firm of States, and originally constituting the entire firm, are smiled at for their superannuated simplicity when they assert that these lands belong to the United States, and not to the West alone. This treatment of the old thirteen States is neither just nor honorable.

Happily this narrow feeling is now a mark of "superannuated simplicity." There is a broader conception of the term United States citizenship that covers over such limited views of sectional patriotism, and it is well realized that opportunities offered by one State for persons to become enlightened citizens are a benefit to a common country. And yet such claims as these were not uncommon, nor, narrow as they were, are they entirely without foundation in reason or justice. State universities in the West may well keep in mind that they are reared on national grants and that no restricted or selfish policy is worthy of their origin; that the land grants were made because of a generous patriotism, and that for that end must State universities strive, and not merely for State aggrandizement and glorification, if they do not intend to be unfilial and ungrateful. An examination of the careers of Western universities will show that they have appreciated their debts, and

that, while under State auspices and generously aided by State grants, they have not lost sight of their national origin or suffered their national duties to become obscured or their national characteristics to disappear.

In spite of many objections from some of the citizens of the East, Congress continued the liberal and generous policy begun in its act of July 27, 1787, and no Territory has been organized or State admitted to the Union since that date that like action has not been taken. March 26, 1804, Congress in accord with this policy, on making arrangements for disposal of public lands in Indiana Territory, reserved a township in each of the three divisions of that Territory, in which were their land offices. Michigan was thus included, for it will be remembered that after the 30th of April, 1802, until June 30, 1805, Michigan was included in Indiana Territory. January 11, 1805, Congress passed an act to take effect June 20, whereby Michigan Territory was thus defined :

All that part of Indiana Territory which lies north of a line drawn east from the southerly bend or extreme of Lake Michigan until it shall intersect Lake Erie, and east of a line drawn from the said southerly bend through the middle of said lake to its northern extremity ; and thence due north to the northern boundary of the United States.

However, this reservation never became part of the resources of the Territory, but may be considered as another indication of a national policy. But, by a substitution in later years, from this grant came the basis of the present endowment of the university.

It is quite evident that for some years after the War of 1812 the governor and the people of Michigan Territory were occupied with more substantial interests than university education. Nothing had been done for the selection of the lands before the war. Everything was in confusion during the first few years of Cass's governorship. The Indians were nominally friendly, but inclined to be intolerably insolent ; the territory but slowly recovered from the terrible devastation that had resulted from a war carried on by savages instigated to cruelty by an implacable enemy. Many of the inhabitants were without homes and were dependent on the General Government for support, and so not until about 1817 does there appear any striving for general education, at which time there seems to have been a good deal of agitation of the subject among all classes of the people. The land titles in the territory were until that time scarcely less confused than they were 15 years before. Many of the records had been destroyed during the British occupancy of Detroit, and the public lands were not opened for sale until 1818. It may perhaps be fortunate that attempts were not made earlier to select university lands. When the selection was made it was a good one, and with more conservative management an immense return might have been gained from the sale.

The aborigines can not be left out of consideration in a discussion of land grants for education. Judge Cooley in his "Michigan" has com-

pared the generosity of the Indians to that of Nicholas Brown, Elihu Yale, and John Harvard, and the comparison, if we judge by the amount given and not by the sacrifice implied, is to the advantage of the untutored savage. In the treaty of Fort Meigs, negotiated September 29, 1817, where Lewis Cass appeared as commissioner on part of the Government, the Ottawas, Pottawatomies, and Chippewas, Indian tribes of the Northwest, granted six sections of land for purposes of education, half of this grant to be given to the College at Detroit, which was a branch of the Catholepistemiad to be described hereafter, and the immediate forerunner of the university, and the other half to St. Anne's Church, which had been interested in educational matters for years. It will be noticed that this stipulation in the treaty was secured just as the people of Detroit were beginning to arouse themselves to the necessity of furnishing educational advantages.

There is something pathetic [writes President Angell] in this gift of the Indians who were even then so rapidly fading away. They doubtless hoped that some of their descendants might attain to the knowledge which the white man learned in his schools, and which gave him such wonderful power and skill. This hope has never been realized, so far as I know, by the education of any full-blooded Indian at the university.¹

Neither this grant nor the one of 1804 was made complete by the selection of the lands until some time after the date of the treaty just mentioned. June 20, 1821, Hon. Austin E. Wing, in the meeting of the governing board of the new "University of Michigan," introduced the following resolution, which was carried:

Resolved, That his excellency, Lewis Cass, and Mr. Sibley be a committee whose duty it shall be to communicate with the Secretary of the Treasury of the United States on the subject of the location of the college townships in this Territory, and that he be urged to hasten the location of the same.

This resolution did not include the selection of the sections granted in the treaty of Fort Meigs. But Governor Cass, authorized by the Secretary of the Treasury, commissioned Mr. Wing and Mr. Lecuyer to select these lands. An examination of the country resulted in the choice of lands a little below Detroit, and also in Oakland County, and patents were issued for these by the Government May 15, 1824, some seven years after the treaty was signed. Without referring to these lands again it may be well to say that funds from the sale of them were used for educational work in the city of Detroit in accordance with the intent of the grant. Part of this was probably retained in Detroit without transfer at the time of the establishment of the university in 1837. Part, doubtless, went to the Detroit building, which was used under various conditions until 1837, when it was tendered to the regents free of rent as an inducement to the establishment of a Detroit branch of the university. This building was used for the purposes of that branch until 1842, and in 1844 the board of education of the city began making use of it for school purposes.

¹ University of Michigan, Semicentennial, page 155.

When the trustees turned over to the regents of the university the property in their possession, 1837, they failed to account for the lots on Bates street, in Detroit. Action was brought to recover them, and in 1856 the Supreme Court decided that the two boards were practically the same, and directed the transfer. The lots were sold to the Young Men's Society of Detroit, but they were unable to pay, and after other difficulties the regents consented to cancel the contract. The lots were then sold for \$22,010. This money was used for buildings, and though the board resolved to set aside a certain amount each year, to be known as "reserve fund," their well-meant efforts were unsuccessful. The sum of \$19,000 so set aside, the interest of which was to increase the library, was used up in building the university hall and in making up certain deficits of the years 1874 and 1875.

The selection of lands under the act of 1804 proved no easy task. It was discovered that the choice must be made from lands to which the Indian title had been extinguished at the time of the grant; and as it was difficult to ascertain just what those lands were, and as it seemed quite evident that such a choice must almost necessarily result in the securing of undesirable portions, it was decided to apply to Congress for relief, rather than be content with inferior townships of insignificant or uncertain value. A committee, comprising Messrs. Woodbridge, Sibley, and Williams, was appointed by the board to take the necessary measures for the attainment of the desired end. This committee drew up a memorial to Congress, which was read to the board, approved December 10, 1823, and sent to Washington, in company with a bill drafted to include the substance of the memorial.¹ Congress took action May 20, 1826, giving to Michigan for a "seminary of learning" two townships of land in lieu of the one given in the act of 1804.² In accordance with this act it was possible to locate lands in various parts of the country as might seem best, and to select them from any part of the public domain not appropriated at the time of the selection. This privilege proved a great advantage, for lands were wisely chosen in parts of the country where they were sure to be of permanent and increasing value. The act was read in a meeting of the board August 1, 1826, and was received with approbation and even enthusiasm, and steps were at once taken toward having the land selected. Mr. Wing and Dr. Brown were appointed a committee to take the matter in charge, and were authorized to secure the services of a surveyor, who might act with them as one of the committee. May 11, 1827, the board passed the following resolution in regard to the locating of the two townships:

Resolved, That the committee appointed to examine and report their opinion in regard to the two townships of land granted by the United States to this institution, be authorized to locate such tracts at the mouth of Swan Creek, on the Miami River, in this Territory, as may seem to them expedient.

¹ Ten Brook, p. 106.

² Statutes at Large, Vol. iv, p. 180.

The Miami of the Lakes, now known as the Maumee, and Swan Creek meet where the city of Toledo now stands, on land then claimed by the Territorial government of Michigan, but which was afterwards given up grumblingly to Ohio, Michigan receiving in its place the Upper Peninsula which was then considered little more than a barren wilderness.

So wisely did this committee act, therefore, that if this property had remained in the hands of the university it would be possessed of an endowment surpassing that of any similar institution in the United States. The 7th of July, 1827, a letter from the General Land Office declared river lots 1, 2, 7, 8, 9, and 10 reserved and appropriated as university lands.

The two townships of land conveyed by Congress to Michigan as an endowment for a university, when compared with amounts since granted to other States, were by no means exceptional in quantity. On the contrary, very many of the States now occupying the place of the old Northwestern Territory have received much larger appropriations for the same purpose. If the grant to Michigan has been productive of exceptional results it is owing to the fact that lands were selected of exceptional value. With so much wisdom, indeed, had the lands been chosen, that in ten years from the time the grant had been made, they were estimated by the superintendent of public instruction to have attained an average value of twenty dollars per acre.¹

Unfortunately, the lands first selected were not as productive of exceptional results as they might have been under different management. Of course, to blame a board for every false step is to impose censure for lack of prophetic insight. We have every reason to congratulate ourselves that so much prudence was manifested, even if the powers of the prophet would have secured to the university an endowment that, however large, could scarcely be too large for present necessities.

Speculators soon turned their eager faces to the country of the Maumee. After various solicitations the board decided to exchange lots 1 and 2, containing some 401½ acres, for lots 3 and 4, containing about 777 acres, and the conveyances were delivered February 7, 1830. In 1834 the board consented to sell these lots 3 and 4 and some other land for \$5,000 to Mr. Oliver. An act of Congress was considered necessary to assure the validity of the transfer. The desired legislation was secured, and one of the last acts of the board before it gave up control to the new authorities of the State University was to authorize the sale of these two lots, as decided by previous vote.² By this action did the university, for the sum of \$5,000, dispose of lands which are now in the very best part of the city of Toledo, and one can scarcely resist the temptation to ponder on what might have been had the university trustees possessed the cunning insight of the land speculator. The sum of \$5,000 and a little more was transferred in 1837 to the regents of the new university, and described as funds received from the sale of lands to Mr. Oliver.³ The remaining Toledo lands were estimated in a survey

¹ C. K. Adams' sketch of University of Michigan.

² U. S. Statutes at Large, Vol. vi, pp. 615, 628.

³ Ten Brook, p. 109.

of 1848 to contain 621 acres, and all of these now lie within the present corporate limits of the city of Toledo. Most of this property was sold in 1849 and 1850, and some as late as 1855, bringing in, with the sum before received from the Oliver transactions, a total of something like \$17,000. Thus ends the history of the Toledo lands. No one has hinted at anything worse than a lack of faith and foresight on the part of those who were administering affairs, and there is no desire now to linger over an unpleasant recital.

It will probably be conducive to clearness and precision if the whole subject of the university lands be disposed of in the same chapter. It may be well to preface further accounts with the statement already suggested, that the board which had charge of the university funds before 1837 gave up in that year their control of all university matters to the board of regents, which was constituted after the manner laid down in the new State constitution, as will more clearly appear in a succeeding chapter on the organization and control of the university. A great work had been done in selecting lands under the law of 1826, and affairs by this early board had in general been wisely managed. Twenty-three selections were reported as already made, leaving about two-thirds of the two townships yet to be chosen by the new board.

Michigan began even before 1835 to force her way into the Union, but various reasons prevented her recognition, among them the unfortunate controversy with Ohio over the possession of certain lands situated along the border line. But in 1837 Michigan was received into fellowship, and certain clauses of the acts of Congress then passed are of interest in this connection. By one provision section sixteen in every township of the public lands, or an equivalent if such section had been previously disposed of, was granted to the State for the use of schools. By another the seventy-two sections set apart for the support of a university by the act of 1826 were granted to the State to be appropriated solely to the use and support of the university, in such manner as the legislature might prescribe. This legislation, it will be noticed, gave the control of the university lands to the legislature of the State, whereas the board in charge of university affairs had before this used its discretion in all such matters.

The history of legislative management in the ensuing 20 years presents another gloomy recital. We can not prophesy what might have been the results of management by the board or how large a fund might have been obtained by more conservative manipulation. Of the actual results we are sorrowfully certain. It will not do to forget, however, that Michigan was sorely troubled for some years after 1837. The financial difficulties of the country were accentuated in the West, and Michigan came in for a full share of burdens and scourgings caused by reckless investments and a wild improvement policy. The unsettled lands all through the West had been held at fictitious prices, and it could hardly be hoped that under the wisest management any great return

could be obtained from the sale of the university lands in accordance with the policy entered upon in the very first days of statehood. We are obliged to consider that puzzled legislators, dazed by the disasters of the times, scarcely saw with clearness of vision or looked into the future with hope; and we may content ourselves with the soothing reflection that after all, considering everything, affairs might have turned out much more unfortunately. Here, again, inquiry can discover no dastardly motive for the course taken, and traces of corruption will probably be sought for in vain.

The superintendent of public instruction of the new State, in his first report, entered into some elaborate calculations with regard to the value and the sale of the university lands. It was one of the duties of this officer to make an inventory of all lands and other property reserved in the State for school purposes, to report to the legislature on the location and condition of such property, and to give his views relative to its disposal. He estimated in this report that the first 20,000 acres would in all probability sell for \$20 per acre, giving a fund of \$400,000; and even at \$15 an acre, a sum of \$300,000 would be received from which the university could expect to obtain an annual income of \$21,000.

With such an income, how easy to lay the foundation of a university on the broadest scale and place it on high and elevated ground at the very commencement of its career of light, usefulness, and glory.

What remained of the 72 sections he thought would undoubtedly sell, as soon as the fund should be needed, at the same rate. At the lowest estimate, he expected from the sale of all the university lands a fund of \$691,200, yielding \$48,384 per annum, and from a sale at the expected figure he anticipated \$921,000, which might be expected to give an income of \$64,912. "Judging from the decisions of the past" he believed that the amount received would exceed the highest computation. The legislature adopted this view, not too sanguine in consideration of the condition of Michigan property at that time, but unfortunately not to be fully realized. An act approved March 21, 1837, authorized the superintendent of public instruction to sell at public auction a portion of the university lands sufficient to amount to \$500,000, provided none were sold lower than \$20 per acre. Successful sales were made in this year. An average price of \$22.85 was received and a total of \$150,447.90. This was of course an encouraging beginning, and it was largely due to this encouragement and to the fact that the legislature seemed to have adopted the policy of not selling for less than \$20 per acre, that steps were at once taken for the establishment of the university. The prospects were certainly bright. There was every reasonable ground for expectation that at no distant day the principal sum of \$921,600 would be secured, which would yield an income sufficient for the needs of the university for many years to come. But there were soon clouds in the sky, darkening this bright

outlook. There remains to be told a tale of hasty legislation and egregious mismanagement, which ended in the receipt of a sum small in comparison with the one so confidently expected. Even without the stimulant to hasty sale and legislation, it is quite probable that the lands would not have brought in what the superintendent had estimated. The crisis of 1837 caused a general drop in prices for wild lands and the speculation that had been rife for some years before disappeared, to give place to an inactive market and business depression. The despondency of the years between 1837 and 1840 was but slowly thrown off, for the disastrous consequences had not been confined to a section, but depressed the whole country.

Almost immediately after the organization of the State government there were troubles with "squatters" who had settled on the university lands and did not desire to give up their claims. The legislature was appealed to and entered upon a course of unwise legislation by releasing the university claims to some 16 sections that had been chosen by the university on the Niles and Nottawaspe reserves in 1836.¹ This act of March 20, 1838, contained the provision that Congress should consent and grant an amount of land in the place of these sections, judged to be of equal value to those given up. This indicates a state of mind toward the university fund which may give ground for expecting other legislation, even less considerate and wholesome. There could be no reason or justice in thus preferring the settler to the university, and the subsequent legislation shows that the process was begun of shunting the university from pillar to post in a manner that bade fair to allow no certain standing ground. Congress seems not to have granted the permission, but pressure was brought to bear upon the legislature by other settlers, and in 1839 an act was passed whereby settlers on the university lands who could prove that they had occupied and cultivated their farms in accordance with the preëmption law of Congress before their location by the State were allowed to obtain lawful title by the payment of \$1.25 per acre. The remonstrance of the board against this disregard of their rights was without effect at first. Resolutions were introduced into the board to discontinue work on the buildings at Ann Arbor and for the curtailment of other expenses. Fortunately, however, Governor Mason vetoed the bill. The grandiloquent message of the young governor discloses among its intricate and ambitious sentences that he suspected the land-speculator of attempting to masquerade as a poverty-stricken squatter. This may not have been the reason for the passage of the act, but there is good ground for suspicion.

The time of payment for the university lands was extended in 1838 and 1839. In 1840 4,743.12 acres were sold at an average price of \$6.21. The superintendent of public instruction² in 1837 had confidently

¹ See Laws of Mich., 1838, p. 115.

² Superintendent's Report, 1841.

reported that \$15 per acre was the lowest price for which the lands would be sold, and the price established by the legislature was \$20 per acre. But by this sale the fund expected was considerably diminished. Had this land been sold for \$15 per acre the university would have received some \$40,000 more than it thus received, and a sale at the price first established by the legislature would have yielded nearly \$65,000 more than the sale thus ordered. Again and again from this time on sales were made at less than \$20, and finally, in 1842, the price was set at \$12 per acre, and by a species of retroactive legislation¹ lands heretofore sold at \$20 per acre or over might be reappraised, and if the board of appraisement decided that the lands were worth less than the price at which they were sold, the superintendent of public instruction was instructed to give credit for the balance.

Of course, the board of appraisement, which was composed of the county judges and the county surveyor, must have been influenced often by personal and local considerations, and the result was very much the same as if all the lands had been sold at \$13.42 per acre.² The report of the superintendent for 1843 shows that \$31,651 had thus been deducted from the funds of the university. Up to this time sales had been made to the amount of \$220,000. But by such untoward legislation as this the sum was reduced to about \$137,000—a loss of \$83,000.

Although the legislature in 1837 had directed that the lands should be sold for not less than \$20 per acre, there seems no just reason for considering this a contract, morally inviolable by that body. The board of regents were doubtless induced by this action of the legislature, as well as by the high price obtained for the first land placed on the market, to take steps at once for the broad and liberal establishment of the university. But the inevitable decline in values throughout the West was not due to legislative action, and to argue that a legislature by a mere act of a directive nature restricts its own action for the future under all circumstances, and in spite of all exigencies and popular needs, is to argue that a legislature is morally powerless to exercise its authority, and is bound perpetually by its every action. Much of this legislation was unfortunate, possibly some of it was due to unworthy motive. But the burden of the difficulty came not so much from the fact that the price was lowered, as that special legislative action continually interfered in an apparently thoughtless manner with the wise and conservative management of the superintendent.

The various acts of reappraisal gave opportunity for the reduction of the price because of the testimony of prejudiced witnesses and interested judges. One instance is given us of the sale of land at \$2 an acre. The judgment of President Angell in this matter is entirely just :

We can see now that it would have been far better for the university and perfectly just to the purchasers to extend the time of payment, but not to reduce the price. The general result of the management of our lands has been that instead of obtaining for

¹Laws of 1842, p. 45.

² See Report of Superintendent, 1843.

them \$921,000, which at \$20 an acre Mr. Pierce in his first report showed they would bring, they have yielded \$547,875.1, and 125 acres remain unsold. It is not easy to guess how much more the Toledo lands would have added to our fund if they had been retained for some years, but certainly some hundreds of thousands of dollars. Still, we may at least temper our regret at the sacrifice which was made by remembering that no other one of the five States formed out of the Northwest Territory made the land grant of the United States yield so much to its university as Michigan did.¹

In 1838, the board of regents of the university, desiring to proceed rapidly with the buildings, and relying upon the large funds still confidently expected, obtained from the legislature a loan of \$100,000. The history of the whole transaction is a curious one, and a rare example of the effects of disorganization. The loan was negotiated July 1, 1838. The legislature soon exhibited its interest in the university by relieving the board from the direct payment of the interest and in other ways assisting the institution. The message of Governor Feleh, in 1846, shows the method of relief and how the principal of the loan was rapidly diminished.

The university fund, at an early day of its existence, became indebted to the State for a loan of \$100,000, and the interest of this debt has been liquidated from the interest received annually on the fund. The acts of the legislature, approved February 28, 1844, and March 11, 1844, authorized the State treasurer to receive certain property and State warrants belonging to the university fund, and to credit the same on this loan, and also authorized the sale of university lands for internal improvement warrants, which were to be paid into the State treasury and credited in like manner. The effect of these provisions has been materially to aid in relieving the fund from its embarrassments. The amount received from the State under these provisions and credited to the university fund is \$56,774.15, leaving due to the State from that fund for principal \$43,222.60.²

Governor Ransome, in a message two years later, stated that the debt had been reduced to about \$20,000. In 1850, the finance committee of the board announced that the debt had been practically liquidated in this manner. For some years following there was discussion about the matter, and it has resolved itself into a question of bookkeeping on which different experts have had differing opinions. Doubtless the system of rotation in office, put into full career by the constitution of 1851, had the effect of obscuring matters of detail in the financial status of the university. Information was not inheritable, and the anomalous government of the university before the adoption of the new constitution left many matters in a somewhat unintelligible plight. There is no need of discussing the arithmetical problem as to how much was gained or lost by the university in the transaction. That the debt was obliterated by the university seems tolerably clear. In 1855 President Tappan memorialized the legislature in his own vigorous fashion and pleaded a remission of the debt. Governor Bingham in his message, 1857, recom-

¹ University of Michigan, Semicentennial, p. 166.

² Joint documents, 1846, p. 15; see, also, Ten Brook, *Am. State Uni.*, etc.; Knight, *Land Grants*, etc., p. 143. Ten Brook gives statement of the State officer.

mended that the principal then becoming due be paid by the State "so that the noble institution, in the prosperity of which every citizen of Michigan feels a deep interest and pride, shall be entirely relieved from embarrassment and debt." The course of legislation in regard to this somewhat obscure matter can be traced through the State laws. February 12, 1853, the auditor-general was required to credit the university fund with the entire interest upon the whole amount of university land sold—the act to be limited in operation to two years.¹ Like measures were passed in 1855 and 1857, and in 1859² the limitation of 2 years was omitted from a similar act. The result is that at the present time the university receives interest from the State upon a fund equal to the whole amount received from the sale of the university land.

¹ Michigan Laws, 1853, p. 85.

² *Ibid.*, 1855, p. 139; 1857, p. 154; 1859, p. 397.

CHAPTER III.

ORGANIZATION AND PROGRESS OF THE UNIVERSITY IN TERRITORIAL PERIOD.

It was suggested in the first chapter that the people of Michigan seemed suddenly to awaken to their educational necessities about 1817. Various articles in the Gazette called the attention of American and Frenchmen to the subject of schools and colleges. The Territory then had within its limits some six or seven thousand people; but the imagination of Judge Woodward was at no time limited by present appearances or restrained by present necessities. It was he who devised the wondrous cobweb arrangement of the Detroit streets, a plan that is a weariness to the feet of the stranger and a perplexing problem to his mind; and of like wondrous formation was his plan for a university. His curious nature certainly caused him to give utterance to the vagaries of apparent aberration. But no one who looks into his career with care can see aught but a stubborn and arrogant disposition, lighted up with flashes of a too brilliant imagination. And yet, in spite of a facetiousness which was often untimely, he had, withal, a grasp of affairs and a dignity and pose in his position which made him at times invaluable in the history of the Territory. No one but sturdy, stubborn, fanciful and wise old Judge Woodward could have maintained with so much persistence the rights of the citizens during Proctor's command of Detroit in the dreary days of the War of 1812, and no one but he, on the other hand, could have continued the disgraceful bickerings of Governor Hull's administration. And so the man, with his curious combination of wisdom and folly, proposed the following astounding scheme for a university. One sometimes thinks that his love of drollery must have proved too much for his discretion. But undoubtedly he presented the plan in good faith, and on the 26th of August, 1817, the governor and judges, in the plenitude of their wisdom, arose to the following pitch of legislation.

AN ACT to establish the Catholepistemiad, or University of Michigania.

Be it enacted by the Governor and Judges of the Territory of Michigan, That there shall be in the said Territory a catholepistemiad, or university, denominated the catholepistemiad, or university of Michigania. The catholepistemiad, or university of Michigania, shall be composed of thirteen didaxum or professorships: First, a di-

daxia, or professorship, of catholepistemia, or universal science, the didactor, or professor, of which shall be president of the Institution; second, a didaxia, or professorship, of anthropoglossica, or literature, embracing all the epistemum, or sciences relative to language; third, a didaxia, or professorship, of mathematica, or mathematics; fourth, a didaxia, or professorship, of physiognostica, or natural history; fifth, a didaxia, or professorship, of physiosophica, or natural philosophy; sixth, a didaxia, or professorship, of astronomia, or astronomy; seventh, a didaxia, or professorship, of chymia, or chemistry; eighth, a didaxia, or professorship, of iatruca, or medical sciences; ninth, a didaxia, or professorship, of œconomica, or economical sciences; tenth, a didaxia, or professorship, of ethica, or ethical sciences; eleventh, a didaxia, or professorship, of polemitactica, or military sciences; twelfth, a didaxia, or professorship, of diegitica, or historical sciences; and thirteenth, a didaxia, or professorship, of ennoeica, or intellectual sciences, embracing all the epistemum, or sciences, relative to the minds of animals, to the human mind, to spiritual existences, to the deity, and to religion, the didactor, or professor, of which shall be Vice-President of the Institution. The (didactors, or) professors, shall be appointed and commissioned by the Governor. There shall be paid from the treasury of Michigan, in quarterly payments, to the President of the Institution, and to the Vice-President, and to each didactor, or professor, an annual salary, to be fixed by law. More than one didaxia, or professorship, may be conferred upon the same person. The president and didactors, or professors, or a majority of them assembled, shall have power to regulate all the concerns of the institution, to enact laws for that purpose, to sue, to be sued, to acquire, to hold, and alien, property, real, mixed, and personal, to make, to use, and to alter a seal, to provide for and appoint all such officers and teachers under them as they may deem necessary and expedient; to establish colleges, academies, schools, libraries, museums, Athenæums, botanic gardens, laboratories, and other useful literary and scientific institutions consonant to the laws of the United States of America and of Michigan; and to provide for and appoint directors, visitors, curators, librarians, instructors, and instructrixes, in, among, and throughout the various counties, cities, towns, townships, and other geographical divisions of Michigan. Their name and style as a corporation shall be "The Catholepistemiad, or University of Michigania." To every subordinate instructor and instructrix appointed by the catholepistemiad, or university, there shall be paid from the treasury of Michigan, in quarterly payments, an annual salary to be fixed by law. The present public taxes are hereby increased fifteen per cent., and from the proceeds of the present and all future public taxes fifteen per cent. is appropriated for the benefit of the catholepistemiad, or university. The Treasurer of Michigan shall keep a separate account of the university fund. The catholepistemiad, or university, may propose and draw four successive lotteries, deducting from the prizes in the same fifteen per centum, for the benefit of the institution. The proceeds of the preceding sources of revenue, and of all subsequent, shall be applied in the first instance, to the procurement of suitable lands and buildings, and to the establishment of a library, or libraries, and afterward to such purposes as shall be by law provided for and required. The honorarium for a course of lectures shall not exceed fifteen dollars, for classical instruction ten dollars a quarter, for ordinary instruction six dollars a quarter. If the judges of the court of any county, or a majority of them, shall certify that the parent, or guardian, of any person has not adequate means to defray the expense of suitable instruction, and that the same ought to be a public charge, the honorarium shall be paid from the treasury of Michigan. This law, or any part of it, may be repealed by the legislative power for the time being. An annual report of the state, concerns, and transactions of the institution shall be laid before the legislative power for the time being.

The same being adopted from the laws of seven of the original States, to wit, the States of Connecticut, Massachusetts, New Jersey, New York, Ohio, Pennsylvania,

and Virginia, as far as necessary, and suitable to the circumstances of Michigan, at Detroit, on Tuesday, the 26th day of August, in the year of our Lord one thousand eight hundred and seventeen.

WILLIAM WOODBRIDGE,
Secretary of Michigan and at present Acting Governor thereof.
 A. B. WOODWARD,
Presiding Judge of the Supreme Court of the Territory of Michigan.
 JOHN GRIFFIN,
One of the Judges of the Territory of Michigan.

This seems to us now simply a historic curiosity. Of course the direct influence of such legislation can not be traced with exactness. Yet one may say with confidence that this broad conception of education and the means of its best advancement had its influence 20 years later, when the more definite plans were drawn and more definite steps taken for the establishment of the university. This "Catholepistemiad" was too noble in its breadth and comprehensiveness to be entirely disfigured by the fantastic additions of an inexplicable pedantry. The closing sentence, to the effect that the act was adopted from those of several States, illustrates how easily that mandatory provision of the ordinance was avoided. Governor Cass, it will be noticed, did not sign the act. He seems at that date to have been absent on a journey to Washington accompanying President Monroe, who had visited Detroit on a tour of inspection of the northern fortifications.

The two persons to whom were intrusted the fortunes of this embryonic institution, already christened with such an overwhelming name, were two clergymen of different and often antagonistic denominations. There is no evidence of anything except harmony in their relations with each other. Father Richard, already mentioned, was a devout priest of the Roman Catholic Church, who, in various works of religious and secular nature, endeared himself to the people of the Territory and won their confidence and esteem. He was born in France in 1764; before the end of the century he came to the United States, and soon to Detroit, where he remained, doing good in various directions and interesting himself continually in the affairs of the people around him. He was one of the victims of the cholera of 1832. With characteristic courage and compassion he visited the bedsides of the sick, alleviating sufferings as best he might, until he fell himself under the scourge.

John Monteith was the Presbyterian minister of Detroit, a man of culture and of general education. His training had well adapted him for the duties of his profession, and his influence is discernible in the organization and development of educational affairs in the Territory. He afterwards held a professorship at Hamilton College.

This union of two ecclesiastical faiths, their representatives working together in harmony and wisely, is perhaps, as has been suggested, "a happy prophecy of the truly liberal spirit which was subsequently to guide in the conduct of the university."¹

¹ University of Michigan, Semicentennial, p. 157.

The "Catholepistemiad" had neither students nor endowment, indeed little save a wordy plan for a wonderful organism; but something of a practical nature was accomplished. Mr. Monteith was made president of the institution and given seven professorships, and Father Richard was honored with six others. The salary for a professorship was fixed at \$12.50 a year, and so the president would have the magnificent income of \$87.50 per year, not counting the sums he might receive as honoraria from possible students. The other professor of six branches would have \$75 per year. The corporation secured a site for a school in Detroit, let a contract for the erection of a building, and in a year from the date of the statute of organization had the lower story occupied with a systematic English school, and a portion of the second story with a classical school, and another with a library.¹ It will be noticed that the plan included the establishment of schools and other sources of popular enlightenment and education. Judge Woodward first put into this grotesque statute the idea that has had so much influence in the State—that the system of education should be one system; that there should be an organic connection between the primary and secondary schools and the university; that the whole structure should be symmetrical. He saw clearly the truth that there is no need of a superstructure without a foundation, and of little comparative use is a foundation without a superstructure.

In accord with this comprehensive plan the president and professor set about establishing branch schools and variously building up the educational facilities of the Territory. Several regulations were made and promulgated as decrees by this small but energetic faculty. Primary schools were instructed as to subjects to be taught, and schools were established in Detroit, Mackinaw, and Monroe. It was enacted that the French, Latin, and Greek languages, antiquities, English grammar, composition, elocution, mathematics, geography, morals, and ornamental accomplishments be the curriculum of the classical schools; and this same faculty, so diversely constituted religiously, one might think, enacted that the Scriptures should be read throughout the course. In October, 1817, there was established in Detroit a college known as the "First College of Michigania." Aid was received for the work from voluntary subscriptions by the citizens of Detroit, and the funds at the disposal of the faculty were increased by the transference of a considerable sum which had been originally sent from Montreal and Mackinaw for the relief of the sufferers by the fire of 1805.

By the law of 1821 the Catholepistemiad became the University of Michigan. Other changes were made superseding the nomenclature and the system contained in the wordy, but far from useless, statute of 1817. The general impression that this statute of Judge Woodward was simply a verbal monstrosity containing more sound than sense, and to be called to mind as a mere historic curiosity, which had no influence and

¹From MS. of John Monteith, quoted in "American State Universities," p. 98.

transmitted no momentum, is an impression to be forgotten, due, as it is in most instances, to a lack of appreciation of the scope of the plan and of the fact that the University of Michigan, established by the act of 1821, was only the transformed Catholepistemiad, and indeed not so much transformed as merely re clothed and rechristened. The act of April 30, 1821, repealed the act of 1817 and gave into the hands of a new board, composed of twenty-one trustees, of whom the governor was to be one, the control of the funds in the possession of its predecessor. It continued the comprehensive scheme of general control and common organization of educational matters, and, moreover, intrusted to the board the management of land grants, already mentioned, of 1804 and of the treaty at Fort Meigs in 1817.

During the 16 years that followed very little was done in the direction of higher education. The land grants were cared for, as has been shown in the preceding chapters, and the board continued a supervising care over the schools and academies already organized under the direction of the faculty of the Catholepistemiad. But the "Lancasterian" school in Detroit, as well as the classical school, soon became dependent for its support upon fees received from the pupils. The importance of this intermediate existence is apparent from the fact that when the university began an actual existence good schools were preparing suitable students.

The organization of the university upon the entrance of Michigan into the Union will next claim our attention. It may be well, however, to state clearly here the fact already suggested, that the University of Michigan has had a continuous corporate existence since 1817. So the supreme court decided, in a decision rendered in 1856 on an action of ejection brought by the regents, the validity of whose claim depended upon their identity with the board of 1821. And above all, it is worth while again to state that the system of education which has done so much for Michigan, contemplating an organic connection between high and low, between primary school and university, has been in existence ever since it took form in the unique, absurd, admirable statute of 1817.¹

¹ While we are celebrating to-day the semicentennial of the present form of the organization of the university, let us not forget that, without impropriety, a semi-centennial celebration might have been held 20 years ago; that a just conception of the functions of a university was at least 70 years ago made familiar to the citizens of Michigan; that what may be termed the Michigan idea of a university was never entirely forgotten from that day until now; and, therefore, that the memory of the fathers who framed the charter and nourished the feeble life of those earlier universities should be cherished by us to-day and by our descendants forever.—(University of Michigan, Semicentennial, p. 159, President Angell's oration.)

CHAPTER IV.

ORGANIZATION OF THE STATE UNIVERSITY.

It is not within the province of this sketch to go into the history of the struggle of Michigan for statehood. The people of the whole State were aroused by the contention, and all were interested in politics and constitution-making. This fact largely accounts for the high standard of intellectual vigor and acuteness of those who formed the first constitution and guarded the organizing of the new State. Probably an unusual number of these men were men of education and of generous and liberal conceptions. Certainly they had an appreciation of broad measures and a comprehensive system of popular education. To Isaac E. Crary, chairman of the committee on education in the constitutional convention, may be attributed much of the wisdom of the convention in its establishment of an educational system. He had, it seems, made a study of Cousin's famous report on the Prussian system of education, and he had been impressed with the scope and symmetry of the plan. With such conceptions in his mind he framed an article on the subject of education, which was incorporated into the first State constitution.¹ The plan contemplated a library for each township in the State, the establishment of common schools, and a university.

Provision was made for the appointment of a superintendent of public instruction, an officer whose duties are now not unfamiliar, but then unknown to any one of the States of the Union. The article also defi-

¹ The following sketch of Mr. Crary is taken from President Angell's oration, delivered at the semicentennial celebration, in 1877. The facts were obtained by him from Mr. Crary's widow, then resident in Marshall, Mich.

"Isaac Edwin Crary was born at Preston, Connecticut, October 2, 1804. He was educated at Bacon Academy, Colchester, and at Washington (now Trinity) College, Hartford. He graduated from the college in its first class, 1829, with the highest honors of the class. For 2 years he was associated in the editorial work of the *New England Review*, published at Hartford, with George D. Prentice, subsequently the well-known editor of the *Louisville Journal*. He came to Michigan in 1832. He was Delegate to Congress from the Territory of Michigan and was the first Representative of the State in Congress. He was once speaker of the Michigan house of representatives, and was a member of the convention which drafted the first constitution of the State. He was the author of the enacting clause of Michigan laws, *The People of the State of Michigan enact*. He died May 8, 1854."

nely described the duties of the legislature with regard to the lands granted for the support of the university. The funds accruing from the rents or sale of such lands the article declared—

Shall be and remain a permanent fund for the support of said university, with such branches as the public convenience may hereafter demand for the promotion of literature, the sciences, and the arts, and as may be authorized by the terms of such grant.

The ordinance of admission, as already stated, gave to the State the seventy-two sections granted in the act of May 20, 1826, and the legislature began the management and control of the lands, with the consequences outlined in the second chapter of this monograph.

Even before Michigan was admitted into the Union steps were taken to put the new constitution into effect. Doubtless at the suggestion of Mr. Crary, the governor appointed Rev. John D. Pierce the first Superintendent of Public Instruction.¹ It was he who had put into Mr. Crary's hands Cousin's Report, and the two friends had talked over together questions of educational interest. To this man was now given the opportunity of bringing the theoretical measures to a practical realization, and the occasion was not master of the man. He combined rare philosophical grasp with genuine practical sagacity, and at once began the duties of a new office in a way that inspired confidence and had immediate effect. "Henry Barnard," says President Angell, "did no more for the schools of Rhode Island, nor Horace Mann for those of Massachusetts, than John D. Pierce did for those of Michigan." He first visited the East to converse with men versed in educational matters, and returned to outline a comprehensive scheme for the establishment of the university. This was embodied in an act passed by the legislature March 18, 1837. The object of the university was declared to be to provide the inhabitants of the State with the means of acquiring a thorough knowledge of the various branches of literature, science, and the arts. The government of the university was vested in a board of regents to consist of twelve members and a chancellor, who was *ex officio* president of the board; the members were to be appointed by the governor, by and with the advice and consent of the senate. The governor, lieutenant-governor, judges of the supreme court, and chancellor of the State were *ex-officio* members of the board. The regents had power to enact laws for the government of the university; to appoint professors and tutors; to fix salaries, and to appoint a steward and fix the amount of his salary. Section 8 of this law, embracing as it does nearly the present development of the university, may well be given in full:

¹ Mr. Pierce graduated at Brown University in 1822, and came to Michigan as a preacher in the service of the Presbyterian Home Missionary Society. He was superintendent of Public Instruction in Michigan from 1836 to 1841. He died April 5, 1882, aged eighty-five.—(University of Michigan, Semicentennial, p. 161.)

The university shall consist of three departments—

1. The department of literature, science, and the arts.
2. The department of law.
3. The department of medicine.

In the several departments there shall be established the following professorships:

In the department of literature, science, and the arts, one of ancient languages; one of rhetoric and oratory; one of philosophy and history, logic, and the philosophy of the human mind; one of moral philosophy and natural theology, including the history of all religions; one of political economy; one of mathematics; one of natural philosophy; one of chemistry and pharmacy; one of geology and mineralogy; one of botany and zoölogy; one of fine arts; one of civil engineering and architecture. In the department of law, one of national, international, and constitutional law; one of common and statute law and equity; one of commercial and maritime law. In the department of medicine, one of anatomy; one of surgery; one of physiology and pathology; one of practice of physic; one of obstetrics and diseases of women and children; one of materia medica and medical jurisprudence: *Provided*, That in the first organization of the university the regents of the university shall so arrange the professorships as to appoint such a number only as the wants of the institution shall require, and to increase them from time to time as the income of the fund shall warrant and the public interests demand: *Provided always*, That no new professorships shall be established without the consent of the legislature.

By succeeding sections the government of the internal affairs of the university was laid down, in most respects such as it still continues to be. The regents were given power to regulate the course of instruction and prescribe, under the advice of the professors, the books to be used in the various departments and to give appropriate degrees. And they had power also to remove any professor or tutor if they deemed such removal for the best interests of the university. The act likewise prescribed that the fee of admission should never exceed \$10, while tuition should be entirely free to residents of the State. The regents, with the superintendent of public instruction, were authorized to establish branches of the university, and it is noteworthy that this act made it incumbent on the board to establish, in connection with every such branch, "an institution for the education of females in the higher branches of knowledge," whenever suitable buildings were in readiness. It appears, therefore, that the idea of coeducation had its well-developed germ in the first act passed by the State legislature for the establishment and organization of the university.

The board of regents at their first meeting asked for several amendments to the act, and such amendments were made. By the amended act, the board was authorized to elect a chancellor not a member of the board, and to prescribe his duties.¹ The governor of the State was made *ex-officio* president of the board, and the board were allowed to establish branches without obtaining further authority from the legislature. It was also made permissible to expend at once, from the interest arising from the university fund, as much as might be necessary to purchase philosophical and other apparatus, a library, and cabinet of natural history.²

¹ Michigan Laws, 1837, p. 308.

² *Ibid.*, p. 309.

Nothing is more apparent in all this legislation than the breadth and comprehensiveness of the plan. Some changes in detail have been made as developments made them necessary, but the university is still going forward and upward, under the guidance of this noble ordinance which has continually served to guide and direct rather than to limit or prescribe.

To suppose [said Mr. Pierce] that the wants of the State will not soon require a superstructure of fair proportions, on a foundation thus broad, would be a severe reflection on the foresight and patriotism of the age. * * * Let the State move forward as prosperously for a few years to come as it has for a few years past, and one-half of the revenue arising from the university fund will sustain an institution on a scale more magnificent than the one proposed, and sustain it too with only a merely nominal admittance fee. * * * The institution then would present an anomaly in the history of learning—a university of the first order, open to all, tuition free.¹

In regard to the advisability of establishing a State university he thus speaks :

In respect to the assertions that State institutions do not and can not flourish, it may safely be affirmed that the history of the past proves directly the reverse. The oldest and most venerable institutions in our land are emphatically State institutions; they were planted, came up, increased in stature, and attained to the maturity and vigor of manhood under the guidance and patronage of the State. The same is true of nearly all European universities; they are State institutions, founded, sustained, and directed by the State.

It would be interesting and instructive to give all the statements and arguments of this wise educator, but that can not be done here. His efforts are clearly enough seen in the university as it now stands, its breadth and capabilities largely due to his generous comprehension.

It will be noticed that the plan of the statute above mentioned included the founding of various branches throughout the State. Such schools were to serve as preparatory schools and as normal schools for the training and education of teachers. The superintendent, with his optimistic view of the university fund, recommended that a branch be established in every county, each branch to have means for giving an education of some thoroughness in literature and science, besides having a department of agriculture and a female seminary as soon as practicable. It is apparent that had it been possible to carry out this scheme there would have been a college in each county in the State, its affairs presided over by a central university, and all this maintained on the interest of a fund of \$1,000,000, which Mr. Pierce still fully believed would be realized from the sale of lands. Steps were taken June 21, 1837, to start eight of these branches, and nine seem to have been established in all, before the board decided on their discontinuance entirely. It was seen that the university would be hampered in its development by attempts to support subordinate schools in various parts of the State, and after 1849 they disappeared from the

¹ Senate documents, 1837, p. 61.

arena of university interests. The regents asserted, and the reasoning seems good, that it was beyond even the power of the legislature to authorize the use for intermediate schools of funds granted by Congress for the support of a seminary of learning. Not only were they a burden on the university because of the expense in providing for them, but there was danger at one time that the branches would absorb the interest of the people and be considered the end rather than the approaches to a college education. Many gravely asserted that they did more good than the university itself, and that every reasonable effort should be made to extend them and to increase their means of usefulness. It is with the feeling that a great danger has been escaped that we read of the action of the regents between 1846 and 1849, and we feel relieved when we hear no more of these branches, which threatened to sap the very life-blood of the university, and to give Michigan a host of rival acephalous colleges rather than one large and comprehensive university. And yet these branches did a good work of preparation, and the towns and cities where they had not been established hastened, when there was no hope of such aid, to establish high schools, which have now become the great feeders of the university. They are intimately connected with that institution; not so closely that all local pride and generous emulations are unknown stimulants; not so closely that local peculiarities and desirable individualities are unknown, and yet so closely that there is an evident connection between them, and a division of labor for the best interests of both.

A peril akin to the one arising from the establishment of branches was involved in a plan for the distribution of the income of the funds among various colleges, which were to be planted in different parts of the State. Such a bill at one time actually passed the senate and was defeated in the house by only one vote. The efforts of Mr. Pierce may be credited with averting destruction from the university, for he had obtained from leading educators of the country statements strongly in favor of concentration as opposed to distribution and consequent dissipation.

CHAPTER V.

THE UNIVERSITY FROM 1837 TO 1852.

March 18, 1837, the act establishing the university was approved. On the 20th of that month an act locating the university at Ann Arbor was approved. The Ann Arbor Land Company had granted gratuitously 40 acres of land as an inducement for settlement there. On the 5th of June the first meeting of the board of regents was held in Ann Arbor.¹ A great deal of discussion and planning and devising seems to have occupied the attention of the board at this meeting. Schemes were spoken of which could not be put into being for many years to come, and various were the devices for the future. The regents began their duties with commendable zeal, their enthusiasm indeed carrying them to the very verge of destructive legislation. The board was composed of men who had little or no experience in educational matters. Mr. Crary was perhaps the only one who had ever studied the subject of education. Mr. Schoolcraft was a man of literary and scientific training.

The influence of Mr. Pierce is again discernible in tempering with wisdom the hasty and overambitious designs of the board. This first board determined upon the erection of a building, which was, as Mr. Pierce tells us, of a "truly magnificent design, and would in that day have involved an expenditure of half a million dollars." Had it not been for the refusal of the superintendent to agree to these plans the board would have committed itself to the expenditure of one-half the sum hoped for and of the whole sum actually realized from the sale of the university lands. Great excitement and even anger were the results of Mr. Pierce's refusal, but he remained steadfast in his opposition, and new plans were agreed upon. He insisted that able teachers, scientific collections, museums, and libraries were the essentials of a great university, not monstrous buildings of bricks and mortar. With the \$100,000 loaned to the board by the State, four professors' houses were built on the campus, which are now used for various purposes, one

¹That day may, perhaps with as much propriety as any, be considered the natal day of the present organization of the university. (University of Michigan, Semi-centennial, p. 164.)

of them only being used as a dwelling. About the same time the building now known as the north wing was completed. There is no need of suggesting that these buildings were not of a "truly magnificent design," yet thus with the expenditure of a reasonable amount of money suitable buildings were finished and the doors of the university were opened for students in September, 1841.

One of the very first acts of the board was to secure a collection of minerals offered for sale by Baron Lederer and now known as the Lederer Collection. For this collection was paid the sum of \$4,000; and this expenditure, the first of the university, was soon followed by the purchase for \$970 of four folio volumes and four octavo volumes composing Audubon's Ornithology. These purchases were made before a building was ready to receive the collection, before, in fact, a building committee was so much as appointed. Dr. Houghton, the State geologist, sent specimens secured by him in his researches, as did Dr. Sager and Dr. Wright, who represented the botanical and zoölogical departments of the State survey; and so, before there were students, the university had in its possession a number of valuable collections, which formed the basis of the present museum of so much importance in later collegiate work. The books which the university should have inherited from its former self at Detroit were not transferred until 1869, but in 1840 some 3,700 volumes arrived in Ann Arbor and formed the nucleus of the present library. This was undoubtedly a valuable collection, selected with rare discrimination and judgment. July 17, 1838, the board of regents bestowed the first professorship on Dr. Asa Gray, who afterwards, in Harvard University, added so much to scientific knowledge. He was at that date made professor of botany and zoölogy, and a little later he was given by the board the sum of \$6,500, of which he was to spend \$5,000 in books for the university while absent in Europe on a contemplated visit. The 3,700 volumes were the fruits of his purchase. In April of 1842 the board, by a committee, inquired of Dr. Gray if he would consent to a suspension of his salary for a year. He agreed to the request and his connection with the University of Michigan was ended. To him may justly be given the credit of beginning the library of the university.

Because of many interruptions and financial difficulties the board was unable to open the university for students before the autumn of 1841. There were various complaints and reproaches because of this delay. Students who had been prepared in the branches and other schools of the State went elsewhere for their college course and there was a popular demand for the opening at Ann Arbor. July 22, 1841, the following resolution was passed:

Resolved, That the resolution adopted on the 8th instant, in reference to the organization of a branch at Ann Arbor be so far modified as to authorize the organization of the university at Ann Arbor by the appointment of a professor of languages, who shall perform the additional duties prescribed in the resolution hereby modified.

George P. Williams was given the professorship here mentioned, but he was soon removed to the chair of mathematics and Rev. Joseph Whiting was made professor of languages. The former of these men was at that time principal of the Pontiac branch and the latter principal of the Niles branch. Mr. Colclazer, who had been appointed librarian by the board at its first meeting, was also now on hand, ready for the performance of his duties.

In August of this year the requirements for admission were published, as follows :

Applicants for admission must adduce satisfactory evidence of good moral character and sustain an examination in geography, arithmetic, the elements of algebra, the grammar of the English, Latin, and Greek languages, the exercise and reader of Andrews, Cornelius Nepos, Vita Washingtonii, Sallust, Cicero's Orations, Jacob's Greek Reader, and the evangelists.

The faculty of two received in September six students, and the University of Michigan began its actual work.

It is perfectly evident from the requirements for admission that the "department of literature and science and the arts" began as a college, and did not, as many others, struggle upward to collegiate standing. Greek and Latin, mathematics, astronomy, physics, and metaphysics constituted, with little besides, the typical course of the typical Eastern college. Almost immediately a broader course was offered in the new university. The faculty announced that they could see no reason in confining all students to precisely the same authors. A course of study was prepared which certainly had the attribute "disciplinary."

Course of study published in the catalogue of 1843-'44.

Year.	Term.	Language and literature.	Mathematics and physics.	Intellectual and moral science.
1.....	1	Folsom's Livy, Xenophon's Cyropædia and Anabasis.	Bourdon's Algebra.....	
	2	Livy finished, Horace, Thucydides, Herodotus, Roman antiquities.	Algebra, Legendre's Geometry, botany.	
	3	Horace finished, Homer's Odyssey.	Geometry, mensuration, application of algebra to geometry.	
2.....	1	Cicero De Senectute and De Amicitia, Lysias, Isocrates, Demosthenes.	Plane and spherical trigonometry.	Logic.
	2	Cicero de Oratore, Greek tragedy, Grecian antiquities, Newcomb's Rhetoric.	Davies' Descriptive and Analytical Geometry.	
	3	Tacitus' Vita Agricolaë and Germania, Greek tragedy.	Analytical geometry, Bridge's Conic Sections.	

Course of study published in the catalogue of 1843-'44—Continued.

Year.	Term.	Language and literature.	Mathematics and physics.	Intellectual and moral science.
3.....	1	Cicero de Officiis, Greek poetry.	Olmsted's Natural Philosophy, zoology.	Abercrombie's Intellectual Powers.
	2	Terence, Greek poetry, general grammar.	Natural philosophy, chemistry.	Paley's Natural Theology.
	3	Whateley's Rhetoric.....	Olmsted's Astronomy, chemistry, mineralogy.	
4.....	1	Lectures on Greek and Latin languages and literature.	Geology, calculus.....	Stuart's Intellectual Philosophy, Cousin's Psychology.
	2			Whateley's Logic, Wayland's Moral Science, Political Grammar.
	3			Story on the Constitution, Wayland's Political Economy, Butler's Analogy.

In spite of the most serious difficulties the university continued to advance. The first few reports of the regents were discouraging and melancholy enough. Students were increasing in numbers, but the funds for paying more professors or developing the university in other ways seemed not to be forthcoming. In 1842 the professors were told that there was no money to pay them, and that they might either sever their connection with the institution or continue with the hope of receiving remuneration when the board was possessed of the means. Nearly all of the small income received was used in paying interest on the \$100,000 indebtedness, and during these years, it will be remembered, the branches were also recipients of the university money. In 1844, because of some alleviating legislation on the part of the State and for other reasons, affairs took a brighter aspect. The faculty received some additions about this time. It consisted in 1844-'45 of 3 professors and 1 tutor, an assistant in geology and chemistry, and a lecturer. The number of students increased from 6 in 1841-'42 to 55 in 1844-'45, and on August 6 of 1845 the university graduated its first class, 11 students being given the degree of bachelor of arts. When the college year of 1845-'46 opened the university seemed on the fall tide of success, with a faculty of 6 full professors, an assistant professor and instructor, and a number of students. These facts indicated that the university was well known and that its merits were recognized in the State.

With this somewhat detailed statement of the opening of the university it will be necessary to hurry on to a more cursory outline of its progress. In 1847 a memorial was presented to the board in reference

to the establishment of a medical department. There was some discussion in this year as to the advisability of establishing the law department as well. But it was finally decided that the medical department ought first to be established, and action was taken accordingly. A committee reported at some length as to methods and aims, and especially called attention to the necessity of requiring a preparation for medical studies which would insure an intelligent conception of the physician's work in its intellectual and ethical requirements. The medical school was not opened till the autumn of 1850. The faculty, composed of 5 professors, had been selected some time before this date, and had organized in May by the election of Dr. Sager as their president.

This department almost immediately entered upon a prosperous career. The first year saw as many as 91 students enrolled.¹ The qualifications for admission have not, until recently, been materially altered. The department has greatly increased its efficiency in many ways, but the change has been almost entirely in increasing requirements for graduation, while leaving the requirement for admission unaltered.² The building which, though much enlarged, is still the home of the medical department, was ready for occupancy at the opening of the school. It is interesting to notice that the committee which had the matter of establishing the department in charge decided against the legality, not to speak of the advisability, of locating the medical department in another city.

Not in all ways was the university successful and prosperous in the latter years of the decade of which we are speaking. The number of students of the literary department decreased from 89 in 1847-'48 till in 1851-'52 there were only 57. This diminution was undoubtedly partly due to the fact that at about that time the university discontinued its assistance of the branches, and thus preparation was less accessible.

Part of this was due to the disturbances within the university known

¹The services of Dr. Zina Pitcher, who had been on the board since the organization of the university, though valuable in every way, were of special value to the medical department at this time and until his death. That department speedily took the rank which it has ever since maintained among the leading medical colleges of the country. Like the literary department, it has been fortunate in retaining in its chairs for more than a generation at least two of its accomplished teachers.—[University of Michigan, Semicentennial, p. 170.

²To be admitted to the degree of doctor of medicine the student must exhibit evidence of having pursued the study of medicine and surgery for the term of 3 years with some respectable practitioner of medicine (including lecture terms); must have attended two full courses of lectures, the last of which must have been in the medical department of the University of Michigan; must be 21 years of age; must have submitted to the faculty a thesis composed and written by himself on some medical subject, and have passed an examination held at the close of the term satisfactory to the faculty. Such were the requirements for graduation in 1850.

commonly as the "society war," a difficulty arising from the efforts of the faculty to crush out the secret societies, the influence of which in college life was deleterious, it was maintained, to the best interests of the students and the institution. The interests and prejudices of this contest traveled beyond the confines of the campus, and to some extent, at least, affected the prosperity of the university. Students were expelled; memorials were presented; a mass meeting of the citizens of Ann Arbor demanded a change in the administration of the university; a statement that the faculty were striking at secret societies in general aroused secret society men of the whole State in opposition to the faculty's action, which was proclaimed to be "an abridgment of the rights of man;" the legislature as well as the regents became involved in the discussion, and general confusion prevailed. But such turmoil was an effect of confusion in the management of university affairs, which showed the need of a simple, single, and consistent policy, put into operation by a single and competent head. No such storm would have resulted from so slight a cause if in those days there had been a wise and conservative director who felt personally the responsibility for the failure or success of the institution.

A coming change was foreshadowed in a report of a committee appointed in 1840 to inquire into the condition of the university. Their report contained a recommendation for the transfer of authority from the legislature to the regents, and showed in detail that men qualified for general legislation were by no means *ipso facto* qualified to be guardians of a great educational institution:

When legislatures have legislated directly for colleges, their measures have been as fluctuating as the changing materials of which they are composed. When they have acted under a board of trustees, under the show of giving representation to *all*, they have appointed men of such discordant and dissimilar views that they never could act in concert, so that, supposed to act for and represent everybody, they, in fact, have not and could not act for anybody. What the legislature should attempt in reference to the university is, in the opinion of the committee, to put the whole subject into the hands of competent men, leaving it with undivided responsibility on their shoulders, and then the legislature not to meddle with it again except to protect it as guardians, not to destroy it as capricious despots. Repeated legislative interference, known by experience to be the ruin of a cause like this, would soon dishearten every regent who takes an interest or active part in the duties of his office, and the whole plan would soon come to the ground. The duties of the regents, in their turn, will be mostly to provide the means and apparatus and the like, and to fill the various faculties with able men, and throw the undivided responsibility of carrying on the work of education on them. A board of experienced regents can manage the funds of the university better than any legislature; and the faculty can manage the business of education—the interior of the college—better than any regents.¹

What was the complete effect of this brave and vigorous statement, we can not tell. The legislature did interfere with the management of university affairs for some 12 years after the rendering of this report.

¹ Quoted in Historical and Descriptive Sketch of the University of Michigan, by Charles Kendall Adams, p. 13.

But it seems certain that it did produce some effect, and that its influence was continuously felt, standing forth, as it did, a wise announcement of a wholesome doctrine. For without the application of this principle in the management of the university complications would have arisen in the history of the institution, in comparison with which the difficulties of the latter part of the first decade of its existence would have amounted to very little. This great principle was, however, given full efficacy in the new constitution of the State, as far at least as legislative interference was concerned. The cognate doctrine, noninterference by the regents in the proper domain of the faculty, has up to this time been zealously adhered to by successive boards.

The constitution adopted by the people in 1851 contained the following important provisions:

There shall be elected in each judicial district, at the time of the election of the judge of such circuit, a regent of the university whose term of office shall be the same as that of such judge. The regents thus elected shall constitute the board of regents of the University of Michigan.

The regents of the university shall at their first annual meeting, or as soon thereafter as may be, elect a president of the university, who shall be *ex officio* a member of their board, with the privilege of speaking but not of voting. He shall preside at the meetings of the regents and be the principal executive officer of the university. The board of regents shall have the general supervision of the university, and the direction and control of all expenditures from the university interest fund.¹

And thus the question of president or no president was emphatically answered by constitutional enactment; and the president of the university has been since 1852 a necessary officer of the institution in accordance with a constitutional requirement, a unique instance, if the writer mistake not, in the laws governing State institutions.

The closing days of the board under the moribund constitution were cloudy ones. The faculty were quarreling among themselves. Some of the regents were displeased with some members of the faculty, and to smooth the way for the incoming board it was finally decided to dismiss the whole faculty. The following resolution was carried:

Resolved, That in view of the duty devolving upon the board of regents elect to reorganize the faculty of arts in the University of Michigan, and to appoint a president, it is expedient that this board provide for that contingency by determining the terms of the existing members of said faculty: Therefore,

Resolved, That the terms of office of the present professors of natural philosophy and mathematics; of logic, rhetoric, and history; and of Greek and Latin languages in the university, respectively, terminate and expire at the close of the present academic year, or at such other previous time as the board of regents may determine to appoint their successors.²

This act did not include Professor Fasquelle, who seems to have kept wisely aloof from the quarrels in which other members of the faculty

¹ This clause of the constitution has been judicially interpreted to mean that the regents are exempt from interference by the legislature, and the regents have had no hesitation in acting according to their own judgment, even if their course was not acceptable to the legislature.

² Quoted in Miss Farrand's *Hist. of Univ. of Mich.*, pp. 85-86.

were involved. While it has all the appearance of a summary order for execution the result of the action was probably to put an end to needless bickerings, and to give to the new board a fair field for its efforts. In 1852, therefore, the university began a new era of its existence. It is not too much to say that it put on the *toga viridis* and prepared for the duties of maturity. The change meant a transfer of the management of the university into the hands of men elected because of capacity for dealing with educational matters, under the guidance of a president whom they in their wisdom might select. The first board had done a good work; the wonder is that there had been so much harmony and so much prosperity. Many of the members were astute politicians, possessed of cleverness and good political ability; few of them had special interest in educational matters, and a diversity of duties meant a division of interest and double allegiance. Much had been done, but much remained to be done before the university could take rank among the great collegiate institutions of the country.

CHAPTER VI.

PRESIDENT TAPPAN'S ADMINISTRATION.

The new board of regents entered upon the duties of office on the first of January, 1852. The task to which they first gave their attention was to determine upon a suitable person for the presidency. The university had been without such an officer from the beginning of its career, for the former board had quickly decided that a chancellor, whom they were permitted to appoint by an amendment to the original act establishing the university, would prove only a useless incumbent of an unnecessary office, and there was, perhaps, a general feeling that the title was "totally unsuited to democratic simplicity."

Correspondence was at once begun, and the corresponding secretary of the board, Mr. Palmer, visited the East for the purpose of discovering the person suited to the needs of the new office. On his return to Ann Arbor he recommended the election of Dr. Henry P. Tappan, but the board preferred to offer the position to Henry Barnard, whose efforts in the direction of systematic education in Connecticut and Rhode Island had already given him a national reputation as an educator. The opposition to Dr. Tappan's election was not overcome until the 12th of August, his election coming at the end of a long contest, which had not been carried on at all times with complete serenity and good feeling. But the choice of the board finally fell on a man whose strength of character and personal worth looked down opposition and petty jealousies, and and those who had come to object and cavil remained to admire and praise.¹

¹ Henry Philip Tappan was born at Rhinebeck, on the Hudson, the 18th of April, 1805. At an early age he was cast on his own resources, but by his own efforts succeeded in making his way, and at the age of sixteen entered Union College, where he took his degree in 1825. He there came under the influence of Dr. Nott, whose personality left such an ennobling impression on many young men who were students under him, and to whose inspiring example may doubtless be attributed the generous enthusiasm and broad comprehension in educational matters which characterized his three eminent pupils, Francis Wayland, Amos Potter, and Henry Philip Tappan, who have been happily compared to the triple brood of heroic sons of wise old Nestor. On leaving Union Dr. Tappan entered the theological seminary at Auburn, completed the course there, and at the age of twenty-three was settled as a pastor of the Congregational church in Pittsfield, Mass. Obligated, because of physical disabilities, to give up pastoral work, he accepted, at the age of twenty-seven, the chair of moral and intellectual philosophy in the University of the City of New York. The accept-

Almost immediately things began to assume a brighter hue. President Tappan brought to his task not only ability, but enthusiasm and inspiring vigor. His early predilections for Prussian methods of education he had now the opportunity of testing, and a sense of the difficulty of the undertaking served only to sharpen his zeal and whet the edge of his resolve. For, although Mr. Pierce had been filled with the same ideas of a broad education and a generous culture, in 1852 there was little to suggest European methods or to distinguish the university from a New England college with its cast-iron classical course. But still little or nothing had been done by private corporations toward preempting any portion of the broad field of educational work in the State. The idea of the Prussian system had been at least planted by the continuous assertions of its excellency by the superintendents of public instruction. The whole system of the State was at least mildly prophetic of living relationship between school and college, of the existence in fact of a single vital organism. He found encouragement therefore at the outset. It is to his especial credit that he discovered what had been done, appreciated the successes as well as the failures and the incompleteness of the past.

A young, vigorous, free, enlightened, and magnanimous people had laid the foundation of a State university; they were aiming to open to themselves one of the great fountains of civilization, of culture, of refinement, of true national grandeur and prosperity.

These were his words. He at once came into sympathetic relationship with things as they were, feeling the possibilities they contained and seeing the potentialities that were hidden. It is to his credit that ideas lying dormant or but feebly expressed were awakened to full, vigorous life at his command.

I propose then, generally, [said he] to follow out the principles you have adopted, and perfect manfully your system of education according to those principles.

ance of this chair seems to have been a turning point in his career. Already inclined to believe that American colleges were not doing the work of higher education which it was their province to do, his experience in actual pedagogical work strengthened his belief. He now contemplated the possibility of organizing in America an institution which should be a true university, affording all the advantages of European universities. Leaving his professorship in 1833, he devoted himself for some years to literary work. In quick succession appeared *Review of Edwards's Inquiry into the Freedom of the Will*, *The Doctrine of the Will Determined by an Appeal to Consciousness*, and *The Doctrine of the Will Applied to Moral Agency and Responsibility*, and in 1844 the *Elements of Logic*. His mind, eminently philosophical, found congenial occupation in this work, and he was hailed in Europe by competent judges as one of the greatest of speculative philosophers. Victor Cousin said of his *Logic*: "It is equal to any work on this subject that has appeared in Europe." In 1851 he published a work on university education, and in 1852 a book entitled *A Step from the New World to the Old*. He returned from a visit to Europe in 1852 and was offered the presidency of the University of Michigan, which he accepted. He retained this office until 1863. He died at Vevey, Switzerland, November 15, 1881.

The foregoing sketch of Dr. Tappan's life was obtained from a memorial discourse by Prof. Henry S. Frieze, delivered June 28, 1882.

He called attention of the people incessantly to the fact that the State system of education already adopted must needs be made complete by the development and complete equipment of a university which would become the mainspring of the whole. So generous and comprehensive were his ideas, so complete in their scope, that the statement of Dr. Frieze, though eulogistic, is not exaggeration.

This university, whatever may be its progress towards the highest development, whatever amplitude it may attain in the variety of its departments or the diversity of its learning, will always represent, and can never go beyond the ideal held out before it by the first president.

His policy may, perhaps, be succinctly given under six heads: ¹ (1) He desired to develop the infant institution with its two departments, into a genuine university, such as he was familiar with in Germany; "a university worthy of the name, with a capacity adequate to our wants, receiving a development commensurate with the growth of all things around us." (2) As a great means for the accomplishment of desired success, every chair ought to be filled by a man of exceptional ability and of thorough training; the best man in his specialty that could be obtained. (3) The requirements for admission to the various departments of the university should be the same, thus giving to all departments the culture and broad basis for technical learning which are necessary in the life of an ideal university. (4) Recommended changes must be made slowly, lest sudden transformation destroy rather than add and amend. As soon as possible, however, (5) the present schoolmaster methods and strict disciplinary tactics must be discontinued, and such work and methods be relegated to the high schools and academies of the State. A university should be the home of real university work, conducted on real university methods. The fixed four-year course of the literary department and its frigid rigidity must give place to a more liberal and inspiring system. (6) But while every effort must be made to elevate the university and extend its curriculum, constant care must be taken not to separate the university from the preparatory schools, but carefully and considerately to raise the schools and keep that union which is absolutely essential to the best interests of both. He urged continually upon the legislature and the public that in a State whose school system was one the legislature, while dealing generously with other schools of the State, should not forget that the university was an essential member of the educational body.

The new president entered upon his duties almost entirely untrammelled by the difficulties of the preceding board and faculty. Dr. Williams was reelected to the chair of mathematics and natural philosophy; James R. Boise became professor of the Latin and Greek languages. In December of 1852, Rev. Erastus O. Haven was made profes-

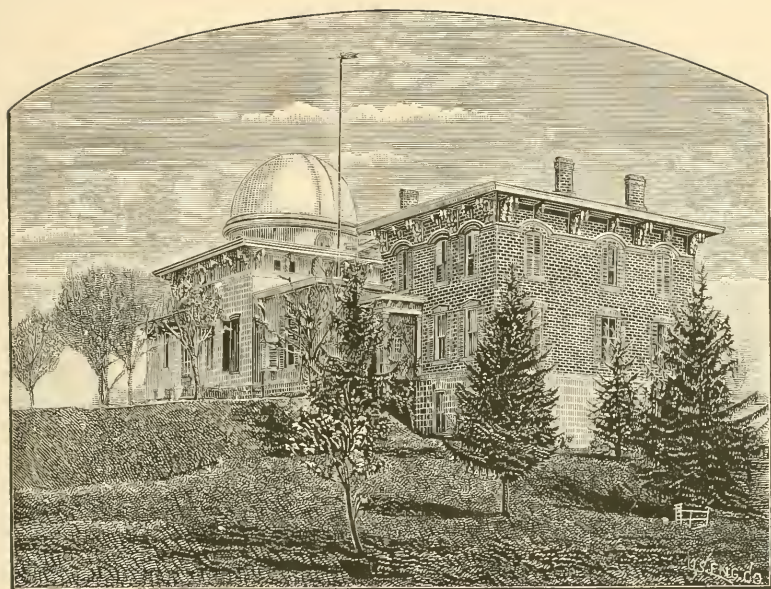
¹ See "The University of Michigan," by Charles Mills Gayley, in *Descriptive America*, August, 1884; also Memorial address by Dr. Henry S. Frieze, pp. 31 *et seq.*

sor of Latin, and Mr. Boise's title was changed to that of Professor of the Greek language and literature. Drs. Douglas and Sager were also members of the faculty, as well as Mr. Fasquelle, who had retained his position amid the turmoils of the succeeding year.

Almost immediately upon the arrival of the president steps were taken, at his solicitation, for the increase of the library. A sum subscribed by the citizens of Ann Arbor purchased 1,200 new volumes. The citizens of Detroit gave evidence of newly awakened interest by giving \$10,000 for an observatory, the chief subscriber to the fund being Hon. Henry N. Walker. The observatory was built and equipped at an expense of about \$22,000, the regents making appropriations to cover the expenses not met by the gift of the Detroit citizens, who, as the work progressed, increased the sum given to \$15,000. Professor Brunnow, an assistant of Professor Encke, of Berlin, was called to the directorship of the observatory. His most eminent pupil was James C. Watson, who afterwards became known wherever astronomy was studied as a science, and whose brilliant discoveries added so much to the sum of astronomical knowledge, as well as to the fame of the university with which he was connected for so many years in the capacity of professor of astronomy and director of the observatory.

Steadily, during President Tappan's time, the faculty was increased as the increased needs of the growing university demanded. In the autumn of 1854 Henry S. Frieze, of Providence, R. I., was elected to the chair of Latin, a position he continued to fill until his death in December, 1889. The influence of Dr. Frieze in popularizing classical learning in the West, and in bringing the common schools of the Western States to a proper appreciation and recognition of sound literary and classical education, has been gracefully stated in a recent article by one who in his younger days was Dr. Frieze's familiar friend and colleague. Andrew D. White, since president of Cornell University, became professor of history and English literature in the autumn of 1857. Under the enthusiastic direction of the first professor of history that department of the university took abiding form. At a time, therefore, when scarcely a university or college in the country was graced with such a professorship, precedents of sound learning and enthusiastic research were established. These were carried out in the spirit of their founder, and widely and generously developed by Charles K. Adams, who in 1867 succeeded Mr. White in the chair of history, and has more recently succeeded him in the work of managing the affairs of the young and vigorous university in western New York.

In 1854, Alexander Winchell was made professor of engineering and Corydon L. Ford became professor of anatomy. Such a list of additions to the faculty as were made during President Tappan's administration gives the ring of truth to the saying that not stones and mortar but teachers and students make the great university. In all these



No. 5. OBSERVATORY, UNIVERSITY OF MICHIGAN.

appointments the president endeavored to express the principles he had advocated from the beginning :

(1) A chair must be filled with the best possible men.

(2) The idea which has prevailed in the university that the professorships should be divided with some equality and fairness among different denominations was entirely a wrong one; the only proper tests for fitness being neither political bias nor sectarian affiliations, but simply good character and intellectual superiority. He thus solved the sectarian problem. Had the old idea of division among different sects been adhered to, the difficulties arising from necessarily uneven distribution would have been endless, and the result would have been a stultification of the whole State university system. Since President Tappan's day occasional jealousies have appeared, but only as transitory phases scarcely noticeable in the general progress of liberal views. In these later days it may be said that when a person is appointed to a professorship the last qualification thought of is denominational connection. More properly, denominational connections are not considered in the list of qualifications. This does not mean that a candidate's attitude toward Christianity and morality is not considered of any importance. In the very earliest years of the university it was announced that there was danger in sectarian prejudices, and equal danger in an entire disregard for the professed religion of the people, who as a free people had almost with unanimity avowed themselves Christians. In the wise administration of affairs by successive presidents since 1852 an evident care has been taken to call to positions of trust in the university men whose morality is unquestionable, and whose Christian principles furnish worthy examples to pupils intrusted to their charge.¹

All through the university was felt the quickening influence of the president's faith and hope. Professors and students seemed to catch the fire of enthusiasm and all entered upon their work with a renewed zeal and unappeased interest. The internal affairs of the college were administered with a broad, free spirit, suited to the life of a great university. Old college customs and petty traditions were gradually put aside to make room for newer and larger ideas. Everything, of course, was not accomplished, but a great deal was.

¹ President Tappan on leaving the university thus referred to his policy and practice in regard to appointments: "One thing is certain, no appointment has since been made with any reference to denominational connection. After Dr. Brunnow reached Ann Arbor, I, for the first time, asked him whether he was a Catholic or a Protestant, when he informed me that he was a Lutheran Protestant. Dr. Haven, who brought Professor Winchell's name before the board of regents, affirmed that he was ignorant of his denominational connection. Professor Frieze was known to be an Episcopalian, but was elected through the instrumentality of Professor Boise, himself a Baptist. Dr. Ford and Professor Wood were elected while we were entirely ignorant of their denominational connection. Messrs. Peck and Trowbridge (from West Point) were elected without any knowledge on our part of their religious predilections. Mr. White, although known to be an attendant of the Episcopal church, was elected on the recommendation of the Congregational president and many others of the Congregational clergymen and professors at New Haven."

I doubt if in the sixth decade of this century any other university in the land was administered in so broad, free, and generous a spirit as this was under Dr. Tappan and his large-minded colleagues in the faculties.¹

But there are things more important than actual and immediate achievement. Under his guidance the university broke away from old moorings and, as time has gone on, it has steadily progressed unframed by old ties, unhampered by old burdens, the *impedimenta* of thoughtless conservatism and prejudice.

In accordance with his suggestions the dormitories were done away with, most of them in 1856-'57. He had been opposed in this by many who could see no advancement in innovation and to whom a college without a dormitory was not a college. But the result of the change was good. To a certain extent the system of espionage is a necessary concomitant of dormitories, and their abolition was the beginning of a broader and more liberal method of discipline. The charm of dormitory life—for such a charm there doubtless is—was exchanged for the ordinary life of an ordinary lodger. The result was twofold at least. In the first place, it prevented to a great extent concerted attempts at practical jokes and more serious follies of college life, which do not add to proficiency in studies or to the dignity of young manhood, and, secondly, it made the students feel to some extent that they were not a distinct and privileged order of beings, but were of the same clay as the rest of the world around them. The present theory and practice of the university are that the students are citizens of Ann Arbor while they keep their residence there, and that from them are expected the same good conduct and general demeanor as from anyone else. The importance of this theory in university life it is hard to overestimate. The difficulty lies in discovering why so many higher institutions of learning still cling to the mediæval cloister system, with its necessarily attendant disciplinary methods. Of course another result of the dissolution of the dormitories was not only to turn into the treasury money which would have been needed to support them, but also to give needed accommodation to professors for class-room work.

Perhaps the most important innovation, however, in the literary department during these years was the establishment of the scientific course. The legislature in April, 1851, had directed that the regents prepare a course of study in the university for admission to which the ancient languages should not be a requirement. The validity of this act under the new constitution is at least doubtful, but it has continued to have weight as an expression of popular opinion.

Said President Tappan :

We see a university faculty giving instruction in a college or gymnasium. Our first object will be to perfect this gymnasium. To this end we propose a scientific course parallel to the classical course. There will be comprised in it, besides other branches, civil engineering, astronomy, with the use of an observatory, and the ap-

¹ University of Michigan, Semicentennial, p. 173.

plication of chemistry to agriculture and the industrial arts generally. The entire course will run through four years, in which the students will be distributed into four classes, similar to the classical course. Students who pursue the full scientific course we shall graduate as bachelors of science. In addition to this we shall allow students to pursue special courses and give them at their departure certificates of their proficiency.¹

It will be noticed that this means not the establishment of a scientific school separated from the college proper, as is the Sheffield School at Yale, but the establishment of a parallel course of four years, with requirements for admission as nearly equal to those for the classical course as circumstances would permit. On substantially this basis the university has been developed. The advantage of such a compact system over one which involves a certain amount of dissipation of energy has been of immense value in the growth and expansion of the institution, limited in its methods, as it always has been, by the need of an adequate income. The establishment of this course was a mark of great insight. Dr. Tappan found the means for making the university the people's university, where every boy, whatever his tastes, need not be crammed into a strait-jacket in the shape of a rigid classical course, where each particular day and each particular year had their stated modicum of Latin and Greek and mathematics. We must remember that in 1852 the advantages of a scientific education were not so apparent as in these days. Nor must one gather the idea that the president was averse to classical education or linguistic training. On the contrary, as before suggested, the classical course was made the very backbone of the institution by the appointment of such eminent teachers as Professors Frieze and Boise. The first requirements for the new (1852-'53) course were not very high; they consisted of English grammar, geography, arithmetic, and algebra through equations of the first degree. A "partial course" was announced, as follows:

Those who do not desire to become candidates for a degree may be admitted to any part of the classical or scientific course for such length of time as they may choose in case they exhibit satisfactory evidence of such proficiency as will enable them to proceed advantageously with the studies of the class which they propose to enter.²

This course was continued during President Tappan's administration and has during President Angell's administration again seen the

¹ Quoted in Historical and Scientific Sketch of the University of Michigan, by Charles Kendall Adams.

² In 1860 the scientific course had the following requirements for admission:

"Candidates for admission to this course will be examined in the following studies, namely:

"(1) Mathematics: Arithmetic, algebra in the simple rules, fractions, equations of the first and second degrees, and radicals of the second degree; geometry, the first and third books of Davies's Legendre or an equivalent in other authors.

"(2) Physics: The following subjects as contained in the elementary works on natural philosophy, properties of matter, laws of motion, laws of falling bodies, mechanical powers, hydrodynamics, and pneumatics.

"(3) English grammar and geography." (Quoted in History of University of Michigan, by Elizabeth M. Farrand.)

light with the provision that the person entering thus to pursue selected studies without becoming a candidate for a degree or passing the entrance examinations required for any stated course must have completed his twenty-first year, a provision which is presumed to preclude the appearance of immature students bent on the pursuit of a dilettant course of study.

The classical course was almost fully developed during this administration. In 1861 the requirements in Greek reached about the limits they have since maintained; for, though the university has developed in other directions, and though preparatory schools of the highest excellence now dot the State, scarcely any addition has been made for the last 28 years to the Greek required for admission, and the classical course has in consequence remained somewhat below the standard of similar courses in like institutions of the country.

In 1856 a chemical laboratory was built, the central portion of the building as it now stands. The school of pharmacy was not created until some time after this, the students working in the laboratory being nearly all members of the literary department. In 1861 it was found necessary to make an addition to the building in order to meet the wants of the students. In 1855-56 a school of engineering was also established and a new course of engineering introduced.

Early in the history of the university petitions were sent to the regents, asking for the establishment of a department of law. At the time the medical department was organized the subject was discussed and it was decided that the existing conditions would not allow the organization of another department. December 21, 1858, a committee of the board was appointed to consider the advisability of such an undertaking, and this committee began a thorough investigation of the whole subject. They found in the whole country but few law schools at all adequately equipped and manned. And upon their recommendation the law school was established as a separate department of the university, with a corps of three lecturers. In March, 1859, James V. Campbell, Thomas M. Cooley and Charles I. Walker, were appointed to the professorships, which were in the same year given the titles of "Marshall professorship," "Jay professorship," and "Kent professorship." October 3, 1859, the law school was formally opened. The lectures were first delivered in the old chapel. An appropriation of \$2,000 was made for books, and there was scarcely a place to put them when purchased. The general library was in need of room and a chapel of larger capacity was needed. The plan was therefore hit upon of erecting a building which would accommodate the law school and the general library and furnish besides a room for the holding of devotional exercises. In 1863 such a building was completed, which continued to be used for these various purposes for many years, not being devoted exclusively to the law department until the completion of the general library building in the



No. 6. CHEMICAL LABORATORY, UNIVERSITY OF MICHIGAN.

latter part of 1883. The law department was especially fortunate in its faculty. The fame of the whole university was increased by the well-known reputation of the members of the law faculty. Indeed the establishment of the medical and law schools in various ways benefited the whole university and even increased the number of students in the literary department. Every graduate from any department of the university became instrumental in turning thither students who were in search of collegiate training.¹ There is very little to be said of the law department from the day of its foundation, save that without a momentous crisis it has steadily developed until now its course embraces almost every branch of jurisprudence. Its library, from appropriations aided by the generous gifts of Judge Fletcher of Boston and of Mr. Buell, of Detroit, has nearly reached the number of 10,000 volumes, and now occupies the room which was used for the purposes of a general library during the first 20 years of the building's existence. The three men who constituted the first law faculty are no longer connected with the school. Judges Campbell and Cooley remained members of the faculty for about a quarter of a century, and Judge Walker for scarcely a shorter period. The broad learning and profound scholarship of these men have been of inestimable influence, not only in spreading abroad the fame of the university, but in inculcating in the minds of successive generations of students sound legal doctrine and sound legal ethics, with a respect for the law in its nobleness and dignity.

The constitution of 1851 provided for the election of a board of regents all the members of which were elected and all retired from office at the same time, making it possible that an entirely new board should have direction of affairs as the result of a regular election. Such an event was the result of the election of 1857; a board entirely unacquainted with the proceedings of the former board, its aims and ideas, ignorant of the progress and development of the university under its management, with no sympathetic appreciation of the plans of the president who had worked in complete harmony with the board which had elected him—a board, therefore, unless fortified by superior discretion and consideration, absolutely disqualified for the immediate control of the affairs of a great university—took the reins of the institution into its hands January 1, 1858. A feeling of self-confidence immediately displayed itself in a board only two of whose members were college graduates, and who therefore might be expected to approach educational subjects with becoming hesitation and pay a modest deference to the head of the university, under whose administration the university had prospered so admirably. There is no need of going into the details of the difficulties and controversies that ensued. Part of the difficulty was of a personal nature, of no general interest as a problem of education and collegiate government. The lesson chiefly to be learned is the dan-

¹ University of Michigan, Semicentennial, p. 194.

ger of complete rotation or rather revolution in office, and, possibly, also the danger of electing to such offices men whose education and training have not adapted them to an intelligent appreciation of the duties of the office. The outgoing board had pointed with pride to the success of their endeavors and called attention to the fact that for the first time in the history of any State or nation the experiment had been tried as to whether or not it is safe to intrust the highest educational interests in the country to a body of men elected directly by the people. The history of the next few years threw a somewhat different light on this important question, and yet it would be hard to say that the action of the board was entirely without provocation or excuse. President Tappan was possessed of a lofty dignity that possibly made it difficult for him to appreciate or overlook events or attempts which a more pliable or malleable disposition would have helped him to disregard. He could not brook the efforts of the regents to deprive him of the complete control and direction of affairs which the other board had intrusted to him.

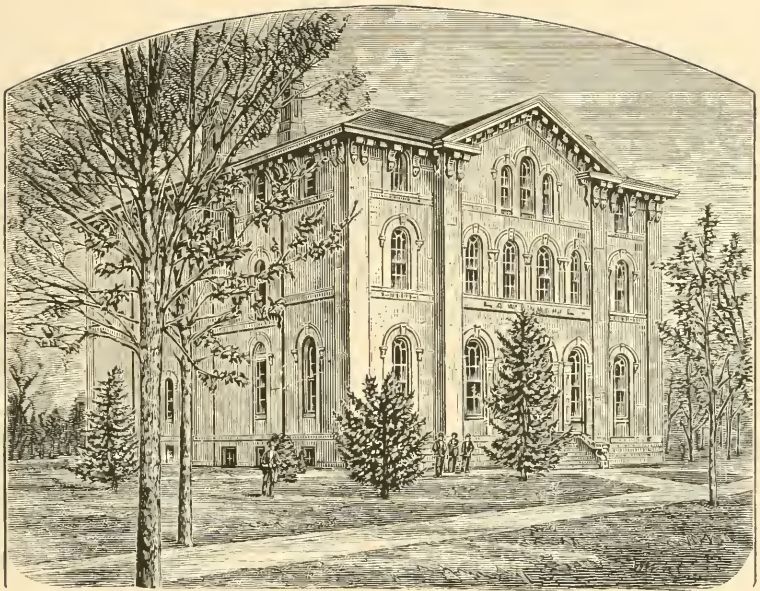
It will be remembered that the presidency of the university is a constitutional office, of equal dignity therefore with that of regent, and any attempt to make the president the mere employé of the board is on the face of it contrary to the spirit and interest of the constitution.

The university senate, a body composed of the professors of the different faculties of the university, and probably constituted about 1852, took cognizance of the disagreement between president and regents, and deprecated any ill feeling or lack of harmony. But the arrangement that was agreed upon, partly at least at the solicitation of the senate, proved of temporary efficacy only, and it soon became evident that disagreements were developing into open hostility. The president was used with scant courtesy by some members of the board. Indeed, if we judge from the words of one member and consider the arrogant and domineering tone of his orders, given with all the vigor of a master reprimanding an incompetent servant or slave, there seems reason for the statement that he entered upon his official duties with the express intention of driving the president from his position. No man could quietly submit to the insulting domination of inferiority, much less a man constituted as was President Tappan. And though, in viewing one side of the case, we have been led to remark, as above, that a more malleable disposition might have insured peace, we can not help feeling that it would have been the peace of desolation.

At the June meeting in 1863, after the transaction of other business, the following resolution was introduced:

Whereas it is deemed expedient and for the interests of the university that sundry changes be made in the officers and corps of professors: Therefore,

Resolved, That Dr. Henry P. Tappan be and he is hereby removed from the offices and duties of president of the University of Michigan and professor of philosophy therein.



No. 7. LAW BUILDING, UNIVERSITY OF MICHIGAN.

Dr. Tappan withdrew and the resolution was at once passed, as well as a number of others, making extensive changes in the faculty. The beard was on the very eve of dissolution. Their duties closed December 31, 1863, and their action was all the more spiteful and malicious, that, at the very last moment, actuated almost entirely by personal motives, they removed from office him who had done so much for the university, him who had founded a college and created a university, who, with constant care, had nourished and protected the interests committed to him until he could well say :

This matter belongs to history ; the pen of history is held by Almighty Justice and I fear not the record it will make of my conduct, whether private or public, in relation to the affairs of the university.

The pen of history can find no easier task than to write in commendation of an administration, the propelling power of which is still felt in the whole mechanism of the university. The traditions of an institution, which, though young in years, is old in achievement, cherish the memory of its first president with a tenacity and a reverence that insure continuous devotion and place beyond peradventure the seal of permanent approval on his work.

At the same meeting of the board Erastus O. Haven, D. D., was made professor of rhetoric and English literature and president of the university.

The removal of Dr. Tappan caused a great deal of excitement and engendered controversies without, which had their agitating effect on the next administration. There is no need, however, of detailing here the disturbance which ensued. Townspeople and students and alumni and citizens of the State who were interested in the university and who appreciated how the president had found the university of brick and left it of marble, all arose in opposition, the alumni going so far as to publish an address to the citizens of Michigan, which set forth in plain terms the ignorance, malice, and discourtesy of the board.¹

When Dr. Tappan closed his official career, after years of service, the literary department had more than quadrupled the number of students it had on his accession to office ; the medical department had 250 students ; the law school 134. The total attendance was 652, and the university was recognized on both sides of the Atlantic as a great and worthy school of liberal learning.²

In 1874, and again in 1876, the board of regents passed resolutions commendatory in the highest degree of Dr. Tappan's efforts in behalf of the university, attributing to him the honor of "organizing and constructing this institution of learning upon the basis from which its present prosperity has grown," and repealing and withdrawing "any censure, expressed or implied, contained in the resolutions which severed his connection with the university." And so official action echoes the verdict of memory and tradition.

¹ History of the University of Michigan, Farrand, p. 158.

² University of Michigan, Semicentennial, p. 174. From President Angell's oration.

One of the great difficulties in the management of university interests had been that all the members of the board were elected at the same time and for the same term. But in 1863 a system of election was begun which is still in vogue and which has proved successful in obviating the evil which complete rotation in office is sure to cause. Eight regents were then elected. Two for two years, two for four years, two for six years, and two for eight. Elections have been held every two years since that time for the choosing of two regents, whose terms are of eight years' duration.

CHAPTER VII.

PRESIDENT HAVEN'S ADMINISTRATION.

President Haven was inaugurated October 1, 1863. His position was necessarily an embarrassing one, for the smoke of the battle had not yet cleared away, and he seemed at times to be enveloped in its folds so thoroughly that all outlook was cut off, and he could only await a lifting of the cloud. A history of his administration must have this fact remaining as its undercurrent. It will be seen that President Haven's administration was far from a failure, and yet it was not to be expected that it would be completely successful in all respects, troubled as he was by a feeling of insecurity and the consciousness that his every action was subject to severe criticism by a portion of the board for some time, and during his whole administration by a goodly number of persons in the State who were anxious to visit the sins of the last board upon him who had received office at its hands. The efforts to reinstate Dr. Tappan will not be recounted here. Suffice it to say that they were not successful, and that they proved only the prevailing admiration for the man and his work. President Haven's conduct toward those opposed to him and in favor of his predecessor won by its frankness and its gentleness. He was devoid of petty jealousies and smallness. Working steadily for what he considered the highest and best, with a true regard for the interests of the institution committed to his charge, he had a successful administration of 6 years at a critical period in the history of the university. Had he been less tactful, less generous, less devoted to high aims and duties, less imbued with Christian principle, his administration would, without doubt, have redounded but little to his credit, while the consequences to the university would have been disastrous.¹

¹ Erastus Otis Haven was born in Boston November 1, 1820. His father was a Methodist clergyman. The family lived for some time at Falmouth, on Cape Cod. The boy secured the best education possible from the intermediate schools, and in 1838 entered Wesleyan University and received the degree of A. B. at the end of a 4 years' course. He began teaching as the principal of a private academy at Sudbury, Mass., but in September, 1843, he became professor of natural science in Amenia Seminary, Dutchess County, N. Y. In 1846, after 3 years of successful teaching in that position, he became principal of the academy. In 1848 he left his position to connect himself with the New York Conference of the Methodist Church. He continued in pastoral work until 1853, when he accepted a call to the professorship of Latin in the University of Michigan. In 1854 he was transferred to the chair of history and English literature, and he was this year honored with the degree of Doctor of Divinity from Union

Prediction had not been wanting that the university would go to ruin under the new administration. The fall of 1863, however, saw more students enrolled than ever before.

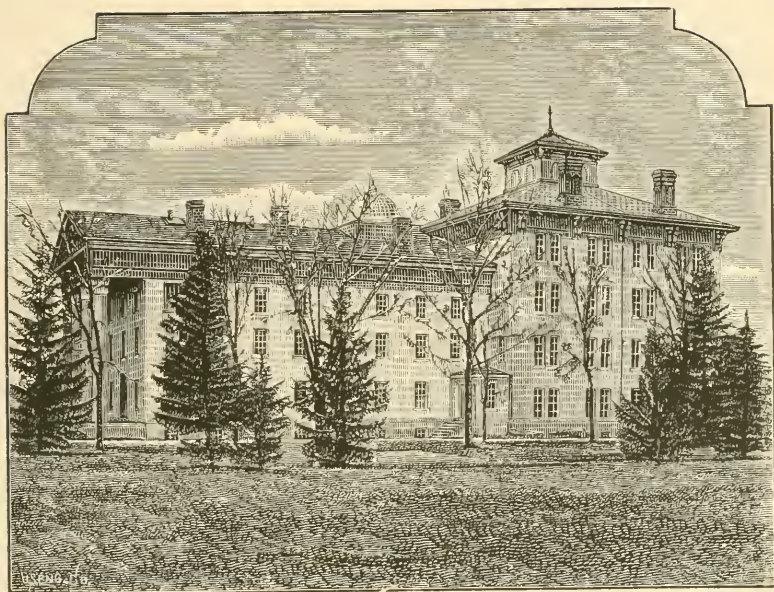
In 1864 the new board of regents at their first meeting considered the necessities of the medical department, which was crowded for room. But the university was unable to find the funds for erecting an addition. The citizens of Ann Arbor again generously responded to the calls for assistance and gave \$10,000, raised by a general tax upon city property. An addition was then made to the medical building at the cost of \$20,000. The laboratory and the observatory were also enlarged in the next few years, and the professor's house, occupying the northeast portion of the campus, was given to the medical department.

The number of students in various years of President Haven's administration well indicates the prosperity of the institution. In 1866-'67 there were in the medical department alone 525 students, a larger number than was in attendance during the year 1888-'89. There were 395 in the law department, while in 1868-'69 the students in the literary department reached the number of 422. In 1863-'64 there were altogether 856 students in the university; three years later there were 1,255.¹

And yet this very increase in the number of students had, as usual, its accompanying embarrassments. The university was in need of money to provide for more instruction and to erect and care for the necessary buildings. Moreover, prices, advanced by the war, had reached such a pitch that the salary of \$1,500, which had seemed amply remunerative

College. Professor Haven had already appeared before the reading world in published addresses and speeches. In 1856 he published a book entitled "The Young Man Advised." He resigned his position in the university in this year and took the editorship of *Zion's Herald*, a Methodist newspaper published in Boston. During part of the time he was in charge of the paper he had also a church at Malden. From 1856 to 1863 he was a member of the Massachusetts State board of education and of the State board of overseers of Harvard College. In 1862 and 1863 he was a member of the Massachusetts senate and chairman of the committee on education. In 1863 he became president of the University of Michigan. His work in this office is given in the text. In 1866 he published a series of sermons on the decalogue under the name of "The Pillars of Truth." In 1869 he resigned his position as president. In the autumn of that year he assumed the presidency of Northwestern University, at Evanston, Ill. He published at this time a school rhetoric, which has had high commendation. He gave up his position as president of Northwestern University in 1872 and became at once secretary of the board of education of the Methodist Episcopal Church. In 1874 he was elected to the chancellorship of Syracuse University, and in 1880 the General Conference at Cincinnati created him bishop of the Methodist Episcopal Church. His official residence was assigned to San Francisco. He had for some time been in failing health, and was unable for some weeks before his death to perform the duties of his office. He died August 2, 1881. He was a man of sound learning and broad sympathies. His career as educator, editor, and minister was one of usefulness and righteous influence. (The foregoing sketch is taken principally from a memorial address delivered by Dr. Alexander Winchell, November 6, 1881.)

¹Miss Farrand's History of the Univ. of Mich., p. 172.



NO. 9. MEDICAL BUILDING, UNIVERSITY OF MICHIGAN.



a few years before, now proved absolutely inadequate to the demands made upon it. The salaries were consequently raised, reaching \$2,000 for a full professor in 1869-'70. The fees for students had in the mean time been increased. These had been until 1865 for all students alike a matriculation fee of \$10 and an annual fee of \$5. In 1866-'67 nonresident students were required to pay a matriculation fee of \$25, and all students alike were expected to pay a tax of \$10 for annual dues. This, of course, helped the university to meet the increasing demands upon its funds.

Attempts were made to secure assistance from the legislature. But the relief granted by the legislature was, for the time being, no relief at all; it seemed indeed to be the application of a powerful and even dangerous counter-irritant. An act was passed granting permanently to the university a tax of a twentieth of a mill on the assessed value of property within the State. But attached to this liberal arrangement was a provision that the regents establish in the medical department at least one professorship of homeopathy. Excitement in the university was intense. Several members of the medical faculty handed in their resignations, and it appeared as if the whole department would go to pieces in the storm. It would not do, of course, to let a matter comparatively so trifling destroy the usefulness of a school which had by this time become one of the best known and most successful schools of medicine in the country. A year of agitation followed. At the end of that time the matter was again approached by the regents. They could ill afford to lose the advantage of the act, and finally proposed the establishment of a school in the department of medicine to be known as the "Michigan School of Homeopathy," the lectures to be delivered "at such a place other than Ann Arbor as should pledge to the Board of Regents the greatest amount for the building and endowment of such school." They even went to the extent of appointing a professor of the theory and practice of homœopathic medicine, and of appropriating \$3,000 to be expended in the organization of the school. The supreme court, however, declared that such an arrangement was an evasion of the law, and in consequence such circuitous efforts at compliance were abandoned.

At the session of the legislature held in 1868-'69, President Haven appeared before that body and set forth the needs and the difficulties of the university. He pleaded for a removal of the impracticable condition offered by the preceding legislature. The legislators had assembled in a critical mood, but by the persuasive and simple eloquence of the president they were brought to see the straits of the board and to realize that a compliance with the conditions of the grant would have been destructive of the best interests of the university. They therefore, in response to his appeals, not only gave the sum which had accumulated under the law of two years before, but settled an annuity of \$15,000 on the university. The board of regents was of course jubilant, and all deeply interested in the success of the university breathed a sigh of relief upon seeing that the institution had, for the time being at least, avoided being wrecked on this rock of dissension.

More important than temporary assistance or the temporary postponement of the homeopathic question, was the fact that by granting this aid the State recognized the principle of State assistance and established a precedent which has been of incalculable benefit to the university. No doubt the people of Michigan were always ready to give any needed assistance to higher education in the State. But this direct aid recognized the university as a State institution, dependent on State assistance—a portion of the school system of the State. This may seem to the reader an imaginary benefit, inasmuch as from the beginning the university was a State institution. There was, however, in the early days altogether too much of a tendency to speak of the "Ann Arbor College." Indeed, it has not been many years that the people of Michigan have wholly realized that the University of Michigan is their university to cherish, protect, and be proud of. Everything which caused the people to recognize their own child, everything which stimulated parental pride, was of immense importance for its growth and development. In consequence of this assistance the professors' salaries were raised, as already stated, to \$2,000 per annum. The wise and acceptable conclusion of this controversy was largely due to the politic conduct of the president and to his conciliatory and unbigoted wisdom.

In the six years of Dr. Haven's administration the university saw many developments. A school of mines was established in 1865 and the degree of mining engineer was conferred at two or three commencements after that date.

A new course known as the Latin and scientific course was established in 1867, a forerunner of the "modern classical" course in the University of Wisconsin, and a model for colleges and academies in the West. The characteristic of this course is that French or German is required for admittance instead of Greek. French and German, without Greek, are requisite studies for graduation. The design of this course was to offer the advantages of the university to a greater number of students, to furnish a line of studies neither so strictly literary and disciplinary as the old classical course, nor so limited to strictly scientific and technical work as were the scientific and engineering courses. The continuous popularity of this course and its success in furnishing graduates well disciplined and equipped attest the wisdom of its establishment. The degree of Bachelor of Philosophy, first given in 1870, has since that time been annually conferred in token of honorable completion of this course.

In 1868 a course of pharmacy was drawn up offering advantages to those desiring to become skilled druggists and pharmaceutical chemists. The degree of pharmaceutical chemist was first conferred in 1869. The school of pharmacy was not organized as a distinct department of the university until 1876, and it may be said, though partly in anticipation of succeeding administrations, that since the time of its organization there have been in attendance upon the department from 75 to 100 stu-

dents, all of whom are engaged most of their time in actual practical investigation in the chemical laboratory. Constant additions to the building have been necessary, until now it covers a large area of ground, offering with its annexed stories, its added wings, and its appended additions a very good illustration of the expansion of the whole university from its humble beginnings.

In various other ways did the university develop during the years of President Haven's administration. The library gradually increased. In 1865, by an actual count, the library consisted of something like 13,500 volumes; in 1869 there were some 17,000 volumes. During these years only about \$1,500 was spent for periodicals and new books. A number of gifts added to the wealth of the institution. Mrs. R. R. Richards gave the "Houghton Herbarium," being a collection of plants prepared by Dr. Douglas Houghton. Dr. Sager gave to the museum a collection of 5,000 specimens, and Mrs. Ames, of Niles, presented 22,500 specimens of plants, the collection of her husband, Dr. George L. Ames. In 1864 Dr. Rominger placed in the museum a collection of European fossils, numbering about 6,000, and in 1869 the regents purchased the collection for \$1,500. The mineralogical and geological collections were much enriched by the addition of a number of specimens collected in the Upper Peninsula by a party under the charge of Professor Winchell.

President Haven resigned the presidency of the university at the June meeting of the regents in 1869. The board was unwilling to accept the resignation, but did so. He was offered the presidency of the new Northwestern University at Evanston, and decided to accept the position. His administration was a successful one. He worked harmoniously with the regents, won the respect of the faculties, and influenced for good the students and others connected with the institution. His policy was a conciliatory one, and it is doubtful if any other would have succeeded quite so well at that time. He felt a good portion of the time as if he presided by sufferance, and many rigorous measures of order and discipline and general management had to be eschewed, and annoying but not destructive practices overlooked. He was possibly fortunate in being able to connive at many customs and habits among the students which have disappeared under the stronger, more systematic, and more assured rule of the present incumbent of the presidency.¹

¹The progress of the university during President Haven's administration was further shown by the following consummation, which I name in the order of time: The office of the steward was located upon the grounds, and he was required to devote his whole time to the duties of the position (March 30, 1864). The Rominger collection of European fossils was purchased (March 30, 1864). The Houghton Herbarium was received (June 28, 1864). A reserve fund for the endowment of the library was created, which, in August, 1869, amounted to \$17,166. A school of mines was inaugurated (March 28, 1865.) The astronomical observatory was enlarged (September 26, 1865). The Sager botanical collection was received (March 29, 1866). The policy of conferring honorary degrees was adopted (June 26, 1866). The Fletcher law library

was received (March 27, 1866). The Fletcher Professorship of Law was established (June 28, 1866). State aid was obtained (1869). The medical college building was enlarged (April 3, 1867). The Ford anatomical collection was purchased (March 25, 1868). A course in mechanical engineering was organized (December 22, 1868). The university hospital was established (March 31, 1869). The Sager anatomical collection was purchased (April 1, 1869). Steam heating apparatus was introduced (April 1, 1869).—[From "A memorial discourse on the life and services of Rev. Erastus Otis Haven, etc.," by Prof. Alexander Winchell.]

It is to be noticed that the course in mechanical engineering here mentioned by Professor Winchell was established, but quickly given up. There were no students in the course.—A. C. M.

CHAPTER VIII.

ADMINISTRATION OF ACTING PRESIDENT FRIEZE.

Immediately on President Haven's resignation, steps were taken to fill the chair, a committee of the regents visiting the East for the purpose of coming into communication with suitable persons. Professor J. H. Seelye, of Amherst, and James B. Angell, then president of the university of Vermont, were offered the presidency, but both, after visiting the university, declined to accept. President Angell was induced to this decision by the importunities of his friends in Vermont, and at the solicitation of the authorities of that university. A special meeting of the board of regents, held in August 1869, made Henry S. Frieze, who then occupied the chair of Latin, acting president of the university.¹ He at no time seems to have been desirous of holding that

¹ Henry Simmons Frieze was born in Boston, September 15, 1817. His father, Jacob Frieze, was a minister of the Unitarian church, and afterward a writer of considerable power for the newspapers of New England. Henry S. Frieze was prepared for college in Newport, R. I. He entered Brown University and graduated at the age of 24, valedictorian of his class. During the 13 years following he was an instructor in Brown University, and in the grammar school in connection with it. In 1854 he was called to the chair of Latin language and literature in the University of Michigan. He held that position until his death. Immediately upon his appointment, coöperating with Professor Boise, he made strenuous efforts to establish a high standard of classical learning in the university. The influence of his constant efforts is clearly seen in the strength of the classical course. In spite of "Western" tendencies toward "practical" studies, students in the early history of the State naturally inclining toward the material and the financial, the classical course has been and continues to be the most popular course in the university. In 1855 Dr. Frieze traveled in Europe and began the art collection which so developed under his curatorship. In 1860 he issued an edition of Virgil, and in 1865 one of Quintilian. In 1883 he published a revised edition of the Virgil, with a Virgilian dictionary—a revised edition of Quintilian was issued later. He was acting president, as recounted above, from 1869 to the fall of 1871. He was again acting president, during the absence of President Angell in China, in 1880-81. In 1886 appeared a short biography, from the pen of Dr. Frieze, of Giovanni Dupré, the Italian artist, and two dialogues on art from the Italian of Augusto Conti. This book is a valuable contribution to the literature of art, and is written in a graceful, musical style characteristic of all the literary work of the author. At various times lectures and memorial addresses have been delivered; one of the best known of his addresses being on the Relations of the State University to Religion, delivered at the semicentennial celebration in 1887. Dr. Frieze died December 8, 1889, while in active service at the university. His broad and accurate scholarship, his generous enthusiasm, his devotion to the university, his originality and liberality in all questions of its advancement or management, made him a power in its councils, while his noble gentleness and the beauty of his Christian character endeared him to faculty and students and to all friends of the university.

position, nor did successful administration encourage his love of administering. The committee whose duty it was to find a successor to Dr. Haven were induced by the eminent success of Dr. Frieze to offer him the permanent presidency, and it is stated that the board were unanimously in favor of erasing the "acting" from his title. But he would not consent to have his name go before the board for that purpose. His short administration was an eventful one for the university—full of progress, full of development along the old generous lines. Dr. Frieze was a great admirer of ex-President Tappan, and it was to be expected that under his guidance affairs would be limited by no narrow or short-sighted policy. His influence, both as acting president and as professor in the university, was continually for growth; for reaching not only upward but outward, in order that those still untouched by college influences might feel their presence; that the whole people might be elevated by the existence of a State institution. Not only the college students themselves were to be permeated with educational doctrines and elevated by communion with the educational spirit; the schools of the State were to feel the presence of the university, and the atmosphere of the whole commonwealth was to be clarified by the work of a great State institution, whose work was high and noble and yet not beyond the sympathy and appreciation of even the untutored. There is no doubt that in his whole career Dr. Frieze was inspired with such ideas. The people were to be elevated not by seeing above them and beyond them a mighty institution whose portals could not receive them and whose ambitious designs were unintelligible, but he felt that the university must come in contact with the whole people of the State, maintaining that contact until the people should see in the advancement of the college their own advancement and their own progress.

This sketch can not include the marks of development shown by various additions to the faculty, nor mention the names or suggest the work of those whose literary and scientific reputations and careful class-room work have added to the fame and usefulness of the university. The two years from 1869 to 1871 saw many names placed on the faculty list which have remained there to this day, a sufficient surety in themselves of accurate scholarship and wholesome personal influence.

The question of the admission of women to the privileges of the university was long a mooted one. The branch schools, it will be remembered, were to have departments for the education of women. This idea was not realized in the early days, and when the branches disappeared and high schools took their place there was no reason for the establishment of such departments. Applications were, however, occasionally made to the legislature in the succeeding years. There are, even, instances of personal application on the part of women who desired the privileges of the university. The first report made by a committee of the regents, appointed to look into the subject, was fair and judicial.

It granted the first great claim that women as well as men had a right to expect from the State opportunities for general culture and for higher education. But the committee were opposed to *coeducation*. The two sexes could not associate together frankly and freely, as would be necessary if the university should open its doors to women. It was a question of moral and social advisability. This was in 1858. The battle was already half won. President Tappan was not in favor of coeducation. In this one respect the university has taken a step which he did not foresee, and for which his administration made no intentional preparation. Dr. Haven, as early as 1855, eight years before he became president, advocated the principle of higher education for women, and urged that the doors be thrown open for their admittance to college classes. From this time on the subject was mildly but intelligently discussed in the newspapers of the State, until, in 1867, the legislature advised that the regents take action for the admission of women. The regents were not yet ready to give up their opinions and try the experiment, while Dr. Haven, now in his official position, insisted that such action would involve great expense, and give such a radically new character to the institution that there would infallibly be a temporary breaking up of its prosperity and success. But public demand for the innovation was becoming unmistakable, and in 1868 he consented to make a recommendation to the regents, who were, however, not overcome by the mild statement of the necessities for the innovation. The legislature at its next session adopted a long resolution urging the board to act in accordance with the recommendations of the president. Action corresponding to the popular desires thus fully expressed by two different legislatures was not immediately taken.

January 5, 1870, the regents passed, almost unanimously, the following resolution :

Resolved, That the Board of Regents recognize the right of every resident of Michigan to the enjoyment of the privileges afforded by the university, and that no rule exists in any of the university statutes for the exclusion of any person from the university who possesses the requisite literary and moral qualifications.

February 2, 1870, Miss Madalon A. Stockwell entered the literary department, and in the autumn of that year the university received in its various departments 34 women students, 11 of whom entered the literary department, 3 the pharmacy department, 18 the medical, and 2 the law department.

From that time to this the number of female students has continually increased. Especially in the literary department have the women students come to vie on equal terms with the male students in the various studies that form a college curriculum. It is still often said by persons interested in educational matters, that the educators of the country are looking to the University of Michigan to solve the problem of coeducation. The only answer to such an interrogative statement is that the authorities in the university, the professors, the students, the

people of the State can discover no problem to solve. An experience of 19 years has left coeducation a fact and simply a fact, undiscussed, unanalyzed, and above all unregretted. The hypothetical or problematical stage of the accepted fact is forgotten.

The chief objections to coeducation were three: (1) The social difficulty—it being considered a foregone conclusion by many that young women could not take their places in a college class in competition with young men without losing their modesty, their maidenly reserve, and their womanly dignity. (2) The mental inequality. (3) The physical inequality.

The first objection time has answered. The objectors have found no ground for their objections. There was no problem to be solved. The American girl has outside of college a fearless freedom of action, which repels the idea of close surveillance and distrust. In college she is quite able to take care of herself with modesty and grace. The second objection was urged with great force. It is certainly true that the mind of man and that of woman are not identical in their constitution. They are similar, perhaps equal, but not the same. Statistics, the writer believes, would show that women have excelled men in some branches, while in others the women competitors have been outstripped, and from these statistics a table of intellectual fitness could be mathematically placed before us. But there is no need of such a table or of such a statistical argument. As a matter of psychological curiosity it would be interesting; as a practical guide in the management of a great educational institution it would be useless and of no value to the student in search of suitable courses of study. The young lady student would scarcely content herself with pursuing the particular study in which, as statistics prove, her sex had best succeeded. Certainly the young man would not be frightened by a statistical "spook" from entering into competition with the women. In reality there is no branch taught in the university which women have not pursued with marked credit with the exception of forge practice, which does not seem to be attractive to feminine taste. The system of free election in vogue in the university brings it about that a thoughtful and ambitious student, whatever be the sex, discovers the studies for which he may be adapted and succeeds in them. The third objection—physical inequality—may be similarly disposed of. Here again the elective system has helped the arrangement of matters. A young lady student can elect an amount of work suited to her physical abilities. Nor is she forced by a hard and fast law of the university to be present at every recitation lest the heavens fall. A certain sensible latitude and a respectable freedom are allowed young men and women who have come to a great university to get university training and culture. It is expected that they have already put away childish things and reached the manhood and womanhood of their education. The authorities do not insist that a student be present in the class room on all occasions, however great may be the physical objections. The women are not spurred on to struggle for honors, for there are no honors to be

struggled for. It is the policy of the university to imbue the student with a love of knowledge for the sake of knowledge, and not for honors or meritorious mention; to fill them with the idea that solid attainment is a personal advantage unconnected with diplomatic commendation.

But the above argument under this objection has been carried on with the supposition that women were confessedly unable to give the regular attendance to recitations, or regular and constant attention to as great an amount of work as are men under similar circumstances. As far as the history of coeducation in the university goes, such a supposition is an unnecessary one. The women are at least as regular in attendance as the men; they are at least as successful in their recitations and examinations; they have proved themselves entirely competent to graduate with their classes, having elected the prescribed number of courses requisite for a degree.

Can there be other objections? The objection of prominent educators of the country was a conclusion deduced from the sum of these three—coeducation would inevitably lower the standard of scholarship and degrade the university into a second-rate college or boarding school. Has that been the result? A study of the calendars which have appeared in the last 19 years will show that the work offered has more and more partaken of the character of true university work. The requirements for admission have been lowered neither in the amount nor in the rigidity with which examinations are conducted. A personal knowledge of the affairs of which he speaks prompts the writer to assert that in all that constitutes a higher and deeper education the university has been steadily advancing since 1870.

But there is no need of further statement. In the University of Michigan coeducation is an established fact. It is not regarded a problem. Its existence is scarcely noticed, because there is no reason for noticing it. What the future may bring forth it is not the province of the historian to state. It may be that events will again change an established fact into a problem, but there is no occasion at present for peering into the future with anxiety.¹

The success of the principle and the fact is seen by the steady increase in the number of women in attendance. In the winter of 1870 one woman entered the university; in 1876 there were 117 in attendance; in 1884 there were 170; in 1887 and 1888 there were 284. The following from the report of President Angell to the regents for the year ending September 30, 1888, gives the condition of the coeducational "problem" at that time:

¹ The experiment has proved a complete success. No distinction is made in college discipline between women and men. They lodge with families in town; they influence the manners of the university for the better; their scholarship is on an average above rather than equal to that of the men; their health has been excellent to a degree unexpected and positively alarming; and it is not apparent that, in point of refinement, they suffer for lack of any social advantages. In all classes, except certain in medicine, the women recite with the men.—(University of Michigan. Sketch by Professor Gayley. Descriptive America. August, 1884.)

The relative as well as the absolute number of women in the university continues to increase very slowly. Last year they formed 16.8 per cent.; this year they form 16.9 per cent. of the total attendance. Last year they constituted 25 per cent. of the entire attendance in the literary department; this year they constitute 25.7 per cent. Twelve of the fifty-three graduates studying for higher degrees are women.

It may be of interest to see in what proportions the men and in what proportions the women choose the different courses. The following table shows the percentage of the men and the percentage of the women, in both cases candidates for degrees in the literary department, who chose each course during the last year:

Course.	Men.	Women.
	<i>Per cent.</i>	<i>Per cent.</i>
A. B.	30.7	32.3
Ph. B.	16.3	31.4
B. S.	13	9.3
B. L.	15	27
Engineering	25	None.
	100	100

The women have, of course, no practical inducement to enter on the engineering courses, though in years past now and then one has completed one of those courses. It will be observed that a larger proportion of women than of men are taking by choice the full classical course. They are led to this not alone by their literary taste, but also by the consideration that there is a demand for their services in teaching Greek in preparatory schools. As one-fourth of the men are drawn to the engineering work, the women naturally form a larger proportion than the men of the students pursuing the Ph. B. course, which contains Latin and the modern languages, and of the B. L. course, which also contains the modern languages and allows large liberty of choice in English literature, history, and the sciences. The B. S. course, which is planned to train teachers of science and scientific experts, attracts a larger proportion of men than of women.

Another innovation of great importance may be credited to the short administration of Dr. Frieze. The Prussian system had been taken as a model by the early founders of the university, and President Tappan had continually drawn inspiration from the same source. But in one respect the Michigan system did not at all approach its Teutonic ideal. The German universities preserve an organic connection with the gymnasia by admitting to their privileges students who have completed the prescribed course of the lower schools. But the graduate from a Michigan high school had no privileges; the university stood to him as did any other college and peered into his past record and present attainments with the same unpleasant care that was given to pupils prepared in unknown and unheard of places. It seems to have been the idea of the founders of the institution that the dividing line between gymnasia and university should be in the university itself, while President Tappan hoped that the college course of 4 years would become simply a preparation for broader post-graduate studies, and that from such students might ultimately be formed the real university. But the high schools were increasing in amount of work offered and in general proficiency, the preparation required for admittance to the university had been added to, and as yet there was no evidence of any movement in the direction of graduate work sufficient to warrant the hope that such studies would soon be considered a customary and useful

addition to a four years' curriculum. Much more reasonable was it to form an intimate connection with the high schools of the State, in order that they might be encouraged to progress while the university also raised the standard of proficiency for admission and the standard of scholarship until, at least in the latter years of the course, studies in original research and individual investigation should find students prepared to pursue them, giving to the institution a curious form—a German university and a New England college mixed in very nearly equal proportions. The plan and its results have proved successful.

The university catalogue for 1870 contained the following :

Whenever the faculty shall be satisfied that the preparatory course in any school is conducted by a sufficient number of competent instructors and has been brought up fully to the foregoing requirement, the diploma of such schools, certifying that the holder has completed the preparatory course and sustained the examination in the same, shall entitle the candidate to be admitted to the university without further examination.

The privilege here granted was at once taken advantage of by a number of high schools in the State, who applied for a committee of the faculty to look into their work and its results. In other States and by other colleges this plan has since been adopted, and thus far has operated satisfactorily for the best interests of higher education. The high schools, feeling themselves part of the educational system of the State and engaged in the actual work of preparation for university studies, have been stimulated to conform themselves to university needs and have prided themselves in generous rivalry upon their success in graduating students well prepared for higher studies. In President Angell's administration the faculty encouraged by this success announced (1883-'84) that academies and preparatory schools in other States may be placed on the same footing as the schools of Michigan, and if the schools on examination showed themselves specially competent, well founded on true principles, and in trustworthy hands, they may be placed for three years on the list of "diploma schools."

This system has, as intimated, proved more than satisfactory. Many educators of the country, instead of turning to Germany to investigate the actual results, contented themselves with prophesying *on a priori* grounds results most dire and woeful. But the standard of scholarship has been raised rather than lowered by the plan.¹

¹ Experience, however, just as in the case of the admission of women to the university, an innovation made at the same period, has proved that there was no ground for fear, except that the thing was new and not practiced in the mother colleges. Two facts are to be noted among the results: First, the standard of preparation in the high schools, if affected at all, has been elevated rather than lowered; second, the State system of education has become a reality. It is obvious that there can be no system, properly so called, without an actual and living connection and communication among its members. By calling for the visiting or examining committees of the faculty, the high schools have been brought into that vital connection with the university which makes them part of an actual organism, and, so far as concerns these schools, our State system no longer exists merely on paper.—(From President Angell's report to the board of regents for year ending June 30, 1880.)

The admission of women made new demands on the already overburdened treasury. In the medical department women and men were to be taught in different classes and this increased the work of the professors of the school, who, in consequence, expected increased salaries. Moreover, the literary department needed more room and new equipment and greater facilities. The homeopathic question was yet unsettled to the satisfaction of the legislature, but the regents, made bold by their acquiescence to the wish of the lawmakers in one respect, now asked for an appropriation for new buildings and were rewarded by the grant of \$75,000.

Of course such a gift had great significance outside of the fact that it provided the university with the needed accommodations. It was looked upon as the beginning of a policy of complete recognition and support by the State.

During the years of President Frieze's administration several valuable gifts added to the material wealth and increased the equipment of the university. In 1870 Mr. Philo Parsons, of Detroit, purchased for the library the collection of books and pamphlets belonging to Professor Rau, of Heidelberg University. This library of some 4,000 volumes and 5,000 pamphlets is a very valuable collection of material for work in political economy and social science. The art gallery, which had been founded and furnished about 1856 chiefly through the instrumentality of Dr. Frieze, and which had prospered under his generous care, now received several gifts of value. A second application to Dr. J. B. Angell was more successful than the first, and he was induced to accept the presidency of the university in 1871. He was inaugurated in June of that year, and in the autumn following entered upon the active discharge of the duties of the office. Dr. Frieze's administration was a successful one. The two years during which the university had an acting president were active and progressive ones for the institution.

CHAPTER IX

PRESIDENT ANGELL'S ADMINISTRATION, AS FAR AS JUNE, 1891.

President Angell's¹ administration began August 1, 1871, and has continued to the present time. He entered upon his duties at a time critical in the development of the university, for the institution was beginning a new era. The diploma system and coeducation involved new problems, and the recent gift to the university from the legislature foreshadowed a wonderful and glorious career for a real State institution, if, in the years which followed, affairs were conducted in a bold yet conciliatory spirit, calculated to make the most of opportunities and to lead to the highest ideals. Such in a word has been the history

¹James Burrill Angell was born in Scituate, R. I., January 7, 1829. He entered Brown University in 1845, and graduated with the highest honors of his class four years later. For some years after graduation he was engaged in teaching and in traveling in the south as well as in continuing to pursue his studies. In 1851 he went to Europe and spent two years in travel and study. Thence he was recalled to take the chair of modern languages and literature in Brown University. This post he filled with gratifying success. In 1860 he resigned his professorship and became editor of the Providence Journal. Hon. Henry B. Anthony had been elected United States Senator in 1858 and for two years Mr. Angell had written leading articles for the paper while carrying on his college work. But in 1860 he took entire editorial charge and conducted the journal during the whole period of the war, throughout which the paper was an active and cheerful supporter of the Government. His keen love of literary pursuits was mingled with a capacity for affairs which enabled him to make the paper a literary as well as a financial success. In 1866 he accepted the presidency of the University of Vermont. He was offered the presidency of the University of Michigan in 1869 and refused it, but accepted in 1871 a second call to the position, which he still holds. In 1880 he was appointed by President Hayes minister plenipotentiary to China and president of a commission of three sent out for the purpose of making a treaty with the Chinese Government. This they succeeded in doing to the satisfaction of our own Government and he returned to his duties in the university in February, 1882. Again in the autumn of 1887 he was called to other than academic duties, and was appointed a commissioner to act with Secretary Bayard and Hon. W. L. Putnam in negotiating with the commissioners of Great Britain a treaty for the settlement of the fishery troubles which had been agitating the country intermittently since the foundation of the Government. President Angell has delivered numerous lectures and addresses, most of them in relation to college topics or in connection with his university duties. Articles from his pen have appeared in many of the leading periodicals of the country. In 1888 he wrote for the Critical and Narrative History of America, edited by Justin Winsor, a "History of diplomacy" covering the period of our history from 1789 to 1850.

of the university since 1871. A firm grasp of affairs, a progressive tendency which has known no backward step, have been coupled with a wise conservatism and consideration which have made friends of foes and in every particular dignified the university in the eyes of the country and endeared it to the hearts of the citizens of the State. One feels in attempting to recount the history of the past 20 years like simply drawing a comparison between the condition of things at the beginning and the end of that period; but such a course, while it would fitly present results, would omit the element of slow, continuous labor which after all has been the glory of the present administration. Briefly, therefore, the progress will be given with some regard for chronological sequence.

The success of the diploma system and its good influence on scholarship in collegiate work have been suggested in the preceding chapter. A careful watch over the admission of students and a careful balancing of requirement and preparation have been necessary, and the needed care has been given.¹

The admission of women to the privileges of the university was also spoken of in the preceding chapter, and the results of that innovation were given somewhat in detail. But it must be remembered that the good results have come largely as a direct consequence of the wise management of the present administration, which has removed difficulties and incumbrances by tactful appreciation of their presence.

Since the gift above mentioned was made by the legislature to the university, aid has been given generously. It is not necessary in this sketch to recount in detail every item of financial assistance thus received. Suffice it to give a general idea of the amounts and the manner of the gifts. Since 1867 the university has received from the State not far from \$1,800,000. All of this has not been given by special acts of legislation. In 1873 the legislature repealed the act heretofore mentioned, whereby an annual sum of \$15,000 was granted, and enacted that thereafter the university should receive one-twentieth of a mill on each dollar of taxable property in the State. Of course this sum has increased as the State has increased in wealth. For instance, in the year ending June 30, 1874, there was received on account of State aid, act of 1873, the sum of \$23,250. For the year ending June 30, 1889, there was received

¹ In the year 1888 the number of diploma schools was as follows:

1. For courses leading to all degrees—22, including 5 not in the State of Michigan.
2. For courses leading to A. B., B. S., and B. L.—2, both not in the State of Michigan.
3. For courses leading to Ph. B., B. S., and B. L.—14, including 3 in Chicago and 3 others not in the State of Michigan
4. For courses leading to A. B. and Ph. B.—1, not in the State of Michigan.
5. For courses leading to A. B. and B. L.—2, including 1 not in the State of Michigan.
6. For courses leading to Ph. B. and B. L.—2.
7. For courses leading to B. S. and B. L.—3.

the sum of \$47,272.50. The legislature has been requested at various times so to alter this act that the receipts will be one-tenth instead of one-twentieth of a mill. But it has been urged in opposition to this that the regents ought annually to appear before the people's representatives, state their condition, and make known their wants. To this it may be answered that there is no likelihood that the gift of one-tenth of a mill will obviate the desired necessity of such appeals, and moreover, as a matter of economy and business interest, it is plain that the university would prosper better by having its income sure and subject to as few caprices and fluctuations as possible. The regents as well as the faculty have always heartily desired to keep in sympathetic contact with the people of the State. It is for the best interest of all and there is no fear that any aid in the establishment of a permanent fund will tempt the authorities to blind their eyes to the advantages of that for which they have been continuously and earnestly striving since the foundation of the university.

In 1873 the legislature granted \$25,000 for the completion of University Hall and \$13,000 to cover a deficit for that year. In 1875 the university was given, by special legislation, the sum of \$59,000, designated for different purposes, hereafter discussed, and the same general course of legislation has continued to the present time, the legislature at each biennial session looking carefully into the needs of the university, at times visiting the institution in a body, the better to become acquainted with its capacities and its limitations, and giving without stint when it seemed necessary. A committee of each house is appointed at each regular session whose special business it is to take into consideration the needs of the university.

In 1875 the regents were authorized to establish a school of mines and a professorship of architecture; and in order to enable the board to put such an idea into execution the sum of \$21,000 was voted for the two college years 1875-'76, 1876-'77. Such a school was organized by the board. Special appropriation for its support was not made, however, in 1877, and after an uncertain existence for a year or two, during which time a few students were graduated, it had to be abandoned for want of funds to carry it on.

Various efforts on the part of the legislature, as well as of many people in the State, to induce the board to establish a professorship of homeopathy in the medical school have already been mentioned. The question was one of more or less vitality after 1855, the regents persisting in their refusal to attempt anything like a coalition of the different schools of medicine. Agitation succeeded agitation. The courts were appealed to. Writs of mandamus were demanded. There were petitions in great number. But the regents stood fast in opposition. Their constant answer was: "No professor of the old school can teach in a school where homeopathy is taught, without absolute professional ostracism." "No student who believes in the regular system, so

called, will attend such a school." The end of the matter was that in 1875 the legislature, which had been asked to make appropriations for other purposes, yielding to these requests, passed also a law authorizing the board to establish a homeopathic college, a branch or department of the university, for the support of which the treasurer of the State was ordered to pay out of the general fund the sum of \$6,000 each year, beginning January 1, 1876.

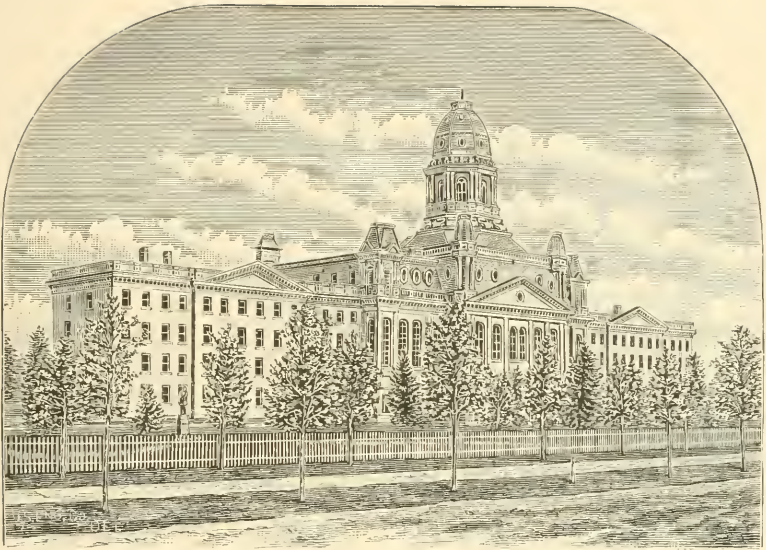
In accordance with this act, steps were immediately taken for the founding of such a school, and it was opened for the reception of students October 1, 1875, 22 students entering upon their work at that time. The school at present is in a flourishing condition, with a faculty of 5 active professors, besides assistants, and having 73 students in attendance for the college year 1888-'89. A hospital building, erected in 1879, gives facilities for practical work and insight into actual practice.

A hospital for the use of the medical schools was erected in 1875, the citizens of Ann Arbor once more generously contributing for that purpose, in addition to the sums granted by the legislature. Each of the schools of medicine has now an amphitheater for clinical purposes in connection with its own hospital building. There are now in process of construction two new hospitals, built at an expense of not far from \$90,000.

In 1875 money was granted the board for the purpose of founding a dental department, and students were received for the college year 1875-'76, 20 students being then enrolled. The school has continuously developed in popularity and in thorough and complete instruction. In the college year 1890-'91 there were in attendance 132 students. The school has a reputation for giving thorough instruction, annually drawing a number of students from England, where its diploma is received as proof of thorough professional training.

In June, 1884, the terms of instruction were made nine months each. But to meet the requirements of the constantly increasing demands of dental science and to accommodate students who desire a thorough dental education, the course of instruction was extended to three full college years of nine months each, to take effect on and from October 1, 1889.

Another department of the university was established in 1876. The school of pharmacy was organized as a separate department. There has been a continuous demand for more room and greater facilities. Besides the students who are pursuing their professional work in the department, the laboratory is used by students of the literary department who are carrying on courses of individual and original research, and by the medical and dental students. Additions have been made at various times. A large addition has just been completed, making the laboratory one of the very largest in the country. In the year 1888-'89 there were 106 students in the department of pharmacy.



No. 11. UNIVERSITY HALL, UNIVERSITY OF MICHIGAN.

During the years of President Angell's administration not only have buildings been erected and new facilities offered, but in every department of the university the requirements for graduation have been increased and the standard of scholarship has been raised. The course of study in the law department was lengthened by action of the board at its July meeting, 1883, to two terms of nine months each, instead of six months each.

In the medical department the requirements for graduation have greatly increased. At first, to obtain the degree of doctor of medicine, the student was required to have studied for a term of three years and to have attended two full courses of lectures, the courses being of six months each. In 1877 the term was lengthened to nine months, and the calendar for 1879-'80 announced that the term had been extended to three years of nine months each. The announcement for 1889-'90 includes this statement :

All students entering after July 1, 1890, will be required to spend 4 years in professional study, including the time spent in attendance upon lectures, before presenting themselves as candidates for the degree of doctor of medicine.

In the literary department many advances have been made in extending courses of study and offering new facilities to students. Larger fields were opened and a greater choice of studies was allowed to the seniors early in the history of this administration. The following account, taken partly *verbatim* from the president's report to the board of regents for the year ending June 30, 1878, includes the main changes of this nature. From the beginning of the life of the university its authorities seem to have been distinguished for boldness and originality. They have aimed not so much to follow blindly the traditional course of older colleges as to seek with wisdom to make the institution do the largest and best work possible. Animated by this spirit the faculty diligently inquired into the advisability of making many useful changes in the plans of the curriculum of the literary department. The happy results which had followed from opening elective studies to the senior class impressed them with the belief that some liberty of choice might properly be extended to all students. Again they had long felt that, while the university courses were coordinate with most of the courses in certain prominent high schools, still the so-called English course, which was prolonged and thorough, in many schools covering the same period of study as the preparatory classical course, had no sequel here. Ought not the university, the faculty inquired, to try, without sacrificing the interests of good scholarship, to bring itself into some harmonious relationship with that large number of high schools which provide no classical course, but do provide a thorough English course of instruction ?

The faculty inspired by this same independent spirit considered the question of time in college education. The regular four-years' course, then in vogue in all colleges of the country, entailed as a necessity four

years of residence for allotted work, no matter what might be the aptitude of the student; and where electives were not freely offered the brightest students with acquisitive minds were kept back in marching order with the average of the class and no stimulant was offered to press on to greater attainment or to further proficiency. Leisure time was spent in idleness. The faculty saw the danger which unlimited election would involve, a danger of cramming without digesting or assimilating. But with precautions against that danger they advocated a free elective system which would permit the diligent and unusually capable student to complete a course of study in less than four years, or which would permit such a student to pursue more studies and accomplish more in the four years of his collegiate residence. It will be observed that this plan, which has been in operation in the University of Michigan for *thirteen* years, has within the last two years occasioned a great deal of discussion in connection with proposed changes in the curriculum of Harvard College.

Another innovation contemplated by the faculty at the same time was to allow persons of maturity, who gave evidence of an ability to pursue studies in the university to their advantage in certain lines of work, to enter upon such studies without having passed the regular examinations required for admission. The idea was that there were many men and women, especially school teachers, who have had a good deal of intellectual training, who, while not in condition to pass the somewhat minute and technical examination for admittance, would profit by a residence at the university without detracting from its scholarship.

It will be seen that these contemplated innovations were comprehensive and radical. The university was at once to be broadened from its old "college" foundations, on which the literary department still in general stood, till it not only comprehended in its generosity diversified courses of study, but offered those courses freely and openly with as few restrictions as good scholarship could tolerate. These changes meant the establishment of the "elective system," the "credit system," the "English course," and the "special course" opened to students without examination. Each of these will be briefly described in order.

The elective system gives to the student the privilege of selecting the course of study which he wishes to pursue in each semester of his residence at the university. There are, however, certain limitations and restrictions, which regulate rather than confine.

In general he is required to elect at some time during his residence at the university the courses requisite for the degree for which he is a candidate. For instance, if he is a candidate for the degree of A. B., he is required to complete at least a certain amount of Greek, and a certain amount of Latin, French, mathematics, English, and philosophy, and enough other work elected to equal 120 "hours" during his college course, an "hour" being 1 hour per week during a semester. But the

faculty does not state the order in which these studies shall be taken ; it suggests the studies for the freshman year, and its suggestion has proved to be for the most part equivalent to a command. The professors of the different branches of study hedge about their special courses by this or that prerequisite, which results in the student's selecting the studies in each department to his best advantage, without being restrained from following the guidance of his taste and his proclivities.

Various changes in the system have been made as experience dictated. But they have been slight, and have not been opposed to the underlying principle. The elective system has not been carried to the extent of allowing a student to get the degree of A. B. without first doing work that has in the past generally been considered the prerequisite for that degree. Each of the several degrees offered in the literary department must be earned by the completion of a certain amount of work, including studies especially designated. The "credit system" has been touched upon *ex necessitate* in the discussion of the foregoing topic. It is, however, a distinct system, though it works with and assists the elective system. By adopting the system of credits the university discarded the plan of making time a qualification for obtaining a degree. When a student has completed a certain amount of *work* he has earned the degree, even if he has spent but 3 years in residence at the university. Under the credit system the faculty recommend for graduation students who have completed a stated number of "full courses" of study. A "full course" of study comprises five exercises a week during a semester, whether in recitations, laboratory work, or lectures. It is not essential that the exercises constituting a "full course" shall be in one and the same branch of study. Thus a part (two, for instance, a "two-fifths course," being 2 hours per week for a semester) may be in mathematics and a part (say two) in Greek, and a part (say one, a "one-fifth course") in Latin.

The results of these two systems have been to stimulate students to more continuous industry and greater interest in their work. Occasionally a student completes his course in 3 years and a half and severs his connection with the university. In rare cases an unusually capable student entering slightly in advance of his comrades finishes in 3 years. More often the amount of required work has been so reduced by the beginning of the fourth year, that the student has an opportunity of beginning his professional studies in connection with his academical work. Much more often still the student spends the whole 4 years in collegiate studies, getting as much done as possible, nearly every student doing something more in the 4 years than if the course had been cut and dried and fitted to him without volition on his part. An earnest attention to duty during the first 3 years enables him to enter upon courses of individual research and of general reading in the fourth year, and this conduces much to broad and liberal culture, the desideratum of university residence.

It is not necessary to say much of the "English course" which first appeared in the catalogue for the year 1878-'79. It has proved itself useful in bringing the university into connection with many schools which are not ready to offer preparation for other courses and with the larger high schools, where students entering upon a course of study without languages had hitherto found themselves debarred the privileges of higher education from the State. In 1890, 20 students graduated from this course, receiving the degree of bachelor of letters, while 51 took the degree of A. B.

The special course of study allowed students over 21 years of age without examination has not been detrimental to the university. Such students have proved themselves with few exceptions thorough students, at times almost too desirous to work, filled with a thirst for knowledge which needs no artificial condiments.

It is sometimes asked what has been the effect of all this on the life and literary atmosphere of the university? The answer must be the effect has been greater and more beneficial than was hoped. The elective and credit systems have abolished class distinctions. Petty class rivalries are unknown, and have given place to personal zeal for knowledge, stimulated by neither prize nor "honor." There has been, and there still is a danger arising from the elective and credit system—students are tempted to undertake too much. It is the earnest desire of the faculty to impress upon students that their college course is for themselves, that it is a period of growth in the direction toward which individual aptitude leads, that thorough knowledge is preferable to superficial acquaintance, and that "cramming" is not assimilation and growth.

There was introduced in 1882 a new scheme of collegiate study known distinctively as the "university system." By this method of work a student, after completing 2 years of residence and after obtaining credit for the certain specified studies necessary for his degree, is no longer obliged to attend any fixed number of courses, but may concentrate his energies upon one major and two minor studies, which he pursues under the direction of a committee of the faculty. At the end of his fourth year he is called upon to pass an examination in the studies so chosen. In this way "men of decided taste and ability may by assiduous cultivation of a specialty" acquire more than ordinary proficiency, and a freer, deeper, and broader spirit of research is encouraged. The system has adapted itself well to the university needs. In June, 1888, thirteen students presented themselves for examination before their respective committees.

In 1871-'72 Professor Adams introduced the "seminary" method of studying history. Students electing history in their senior year were grouped in sections of twelve to fourteen students each, for the purpose of historical investigation. At the first meeting of the class a series of historical questions was assigned for special investigation and numerous

references to historical authorities were given. This system, altered as occasion suggested in its details, has been adopted in other departments of study, until now nearly all branches of work can be thus pursued by proficient students after they have completed certain studies qualifying them thus to be thrown on their own resources. The English department, profiting by the experience of the historical department, adopted the seminary or individual method of studying English masterpieces; and here also it has been a complete success. It is the laboratory method, the scientific method, the modern method of studying history, language, and philosophy. The University of Michigan was the first institution in America to introduce this method of work.

In accordance with the provisions made by the regents in June, 1881, the school of political science was organized and work begun in the autumn of that year, with Prof. C. K. Adams as dean. The course of study in the school covered a period of 3 years, to be entered upon at the end of the second year of residence at the university or at some other respectable American college or university. The degree offered at the expiration and completion of the course was doctor of philosophy. Various courses in political and social science were at once offered, including political and constitutional history, international law, political economy, sanitary science, etc. The president reported for the year ending June 30, 1883, that fifteen undergraduates and three graduates were in attendance and that the following courses of study were offered: Political and constitutional history, twelve courses; economic sciences, eight courses; social, sanitary, and educational science, three courses; constitutional administration and international law, six courses. Excellent results were for some time obtained; various interesting and valuable papers on historical and political subjects were written by the students in the school. The catalogue of 1887-'88, however, includes this statement, which may be taken as the close of the history of this school:

Experience has shown that under the flexible elective system now in force in this department instruction in the studies peculiar to such a school may be provided without maintaining any sharply defined independent organization.

Courses are now freely offered to be freely chosen, covering the branches above mentioned, in social, political, educational, and economic sciences, and the degree of Ph. D. can be obtained by study, in course, in the branches so offered for election.

In addition to the other numerous innovations which gave the university a new aspect at the beginning of the collegiate year of 1879-'80 there were for the first time offered courses in the science and art of teaching. The faculty of the literary department desired that courses of this kind be offered, which would enable students to become familiar with the principles which should govern the administration of graded schools. With no desire to invade the territory of the normal school, the faculty did desire to aid undergraduates who came for collegiate

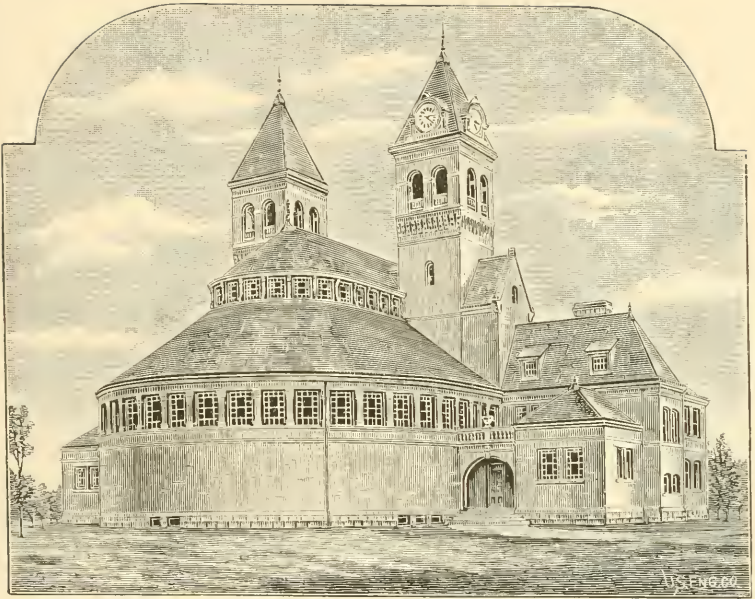
study in order to prepare themselves for the work of teaching and superintending schools, work which they were certain to undertake whether the chair existed or not. A number of students annually leave the university to teach, and many intend to adopt that work as a profession. They have, since 1879, had the opportunity, in connection with their studies in other lines of culture, to become acquainted with the philosophy and science of education.

In his report to the board of regents for the year ending June 30, 1880, Acting President Frieze called attention to the necessity of having greater accommodations for the general library. Statements and arguments were collected to show to the legislature the needs of the university in that respect, and in the session of 1881 there was granted, in response to the requests of the regents, \$159,000, of which \$100,000 was appropriated for the purpose of erecting a new fireproof library building. Plans were soon adopted, presented by Ware & Van Brunt, of Boston. The building was accepted as finished by the building committee of the board November 22, 1883. December 12 the building was dedicated by appropriate exercises. The building is somewhat unique in general plan and arrangement, and has proved itself admirably adapted to the needs of the students of the university. It contains a semicircular reading room, with seating capacity for 210 readers, a fireproof stack for about 100,000 volumes, and as a special feature it also contains "seminary rooms," where students engaged in courses of individual research may have beside them original documents and books of reference and have ready access to the materials in the library.¹

From 1855 to 1877 the average annual additions to the library were about 800 volumes, and in June of the latter year there were on the shelves 23,909 volumes and 8,000 pamphlets. Since 1877 the rate of increase has been about 3,000 volumes per year. In that year the legislature began a series of special appropriations for the purchase of books. The libraries of the university are the general library, the medical library, the law library, and the library of the college of dental surgery. They contained, September 30, 1890, 74,599 volumes, 14,907 pamphlets, and 571 maps and charts. The general library contained, September 30, 1890, including the special collections known as the Parsons library, the McMillan Shakespeare library, the Hagerman collection of history and political science, the German-American Goethe library, and the Dorsch library, 59,735 volumes, 14,708 unbound pamphlets, and 571 maps. The legislature gives from \$10,000 to \$15,000 to be spent in two years for the purchase of books, and this furnishes the means of increase.

The regents were granted, in 1879, the sum of \$40,000 for a museum building, and one was erected costing slightly more than the appropria-

¹ See for account of library building, including description of the building, as well as exercises on completion, Public Exercises on the Completion of Library Building of the University of Michigan.



No. 8. LIBRARY BUILDING, UNIVERSITY OF MICHIGAN.



No. 10. MUSEUM BUILDING. UNIVERSITY OF MICHIGAN.

tion. It contains large and valuable mineralogical and geological collections, an extensive collection of zoölogical specimens—about 110,000 in number, among which are the specimens forming the Beal-Steere collection. A botanical collection received from various sources also adds to the value of the museum and offers opportunities for botanical study. Industrial collections have also been made, chief among which is the gift received from the Chinese Government in 1885, of the exhibit which it sent to the New Orleans exposition.

Numerous gifts received during the present administration have much enriched the university and added to its usefulness. The gallery of fine arts and history, begun in 1855, has been especially benefited. Henry C. Lewis, of Coldwater, dying August 18, 1883, bequeathed to the university—the bequest to take effect in possession on the death of his widow—his valuable collection of pictures and statuary, consisting of nearly 700 paintings and about 35 pieces of statuary.¹ The collection contains a number of copies of the chief works of old masters and some of the finest pictures of a number of the best modern artists.

The following year the distinguished sculptor, Randolph Rogers, of Rome, presented to the university a complete collection of the models and casts of his works, more than 100 in number.²

The reception of these two gifts encouraged the president to suggest the propriety of the establishment of a school of fine arts, as no other college in the country has a gallery comparable to the one now in the possession of the university. It is not improbable that the suggestion will be acted upon. Courses in art are now offered in the college curriculum and illustrated by the specimens which the gallery contains.

In 1882, Mr. James J. Hagerman, of the class of 1861, presented to the university a collection of serial publications of value in the study of political science, containing about 2,600 volumes; and the same year the McMillan Shakespeare library was presented by Hon. James McMillan, now United States Senator from Michigan. Some 750 volumes were thus added to the general library, making it very strong in Shakespeareana. There are now some 3,300 volumes of Shakespearean text and criticism. Other gifts of somewhat less importance, but for which the university is grateful, were received during these years. In 1889 there was established in the university the first fellowship, known as the Elisha Jones classical fellowship. This was done by Mrs. Jones in commemoration of her husband, who for many years was a professor in the university, and died in the summer of 1888 while occupying the chair of associate professor of Latin. His thorough scholarship and his frank and generous nature endeared him to all who knew him, and it was

¹ See, for full statement, President Angell's report to board of regents for year ending June 30, 1884.

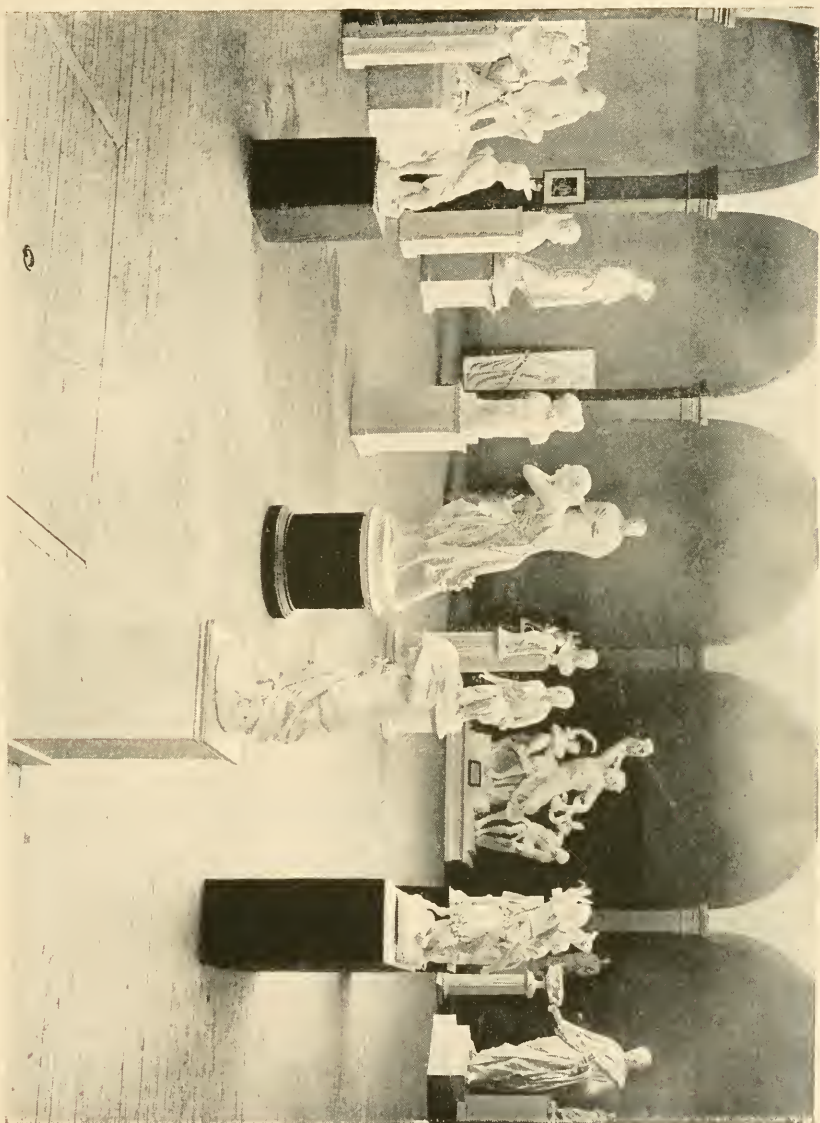
² They include busts and full-length statues of many eminent men; monuments in commemoration of events in our history, especially the civil war; the bronze doors of the Capitol, and ideal figures, which have given the artist a world-wide reputation.

with especial feelings of gratitude that the authorities and students saw such a commemorative fellowship established.

Perhaps one of the best proofs of the progress of the university since 1871 is in the number of students who come annually to the university as candidates for advanced degrees. President Angell has well said that one of the tests of a successful teacher is found in his power to stimulate pupils to push their studies beyond the limits of an undergraduate course. It is undoubtedly one of the tests with which to measure the success of a university. Its facilities for graduate work and its powers of attraction over earnest students may well be taken into consideration in discussing development. In the calendar of 1871-72 it is stated that nine resident graduates were in attendance at the university. The calendar for 1890-'91 includes the names of ninety-five candidates for higher degrees. After the commencement of 1877 the university ceased to give the master's degree "in course," or rather, "of course." Previous to that time here, as in most of the other colleges of the country, graduates of three years' standing had conferred upon them a master's degree—which was no token of greater scholarship, but simply a proof of longer life.

It is not within the province of this sketch minutely to state the financial condition of the university, especially since there is nothing to be learned by such minuteness concerning the progress or the embarrassments of the university. Its fund and the interest received have already been spoken of. The interest on the university fund is not far from \$38,000 per year; the one-twentieth mill tax will net for the next few years \$47,272.50 per year. In 1887-'88 there was received from students' fees a net income of \$72,235.25. Special aid is given by the legislature when there is need. The university rests securely on the generosity of the State, which has not failed to appreciate its greatness and respond to its calls for assistance. Private endowments of fellowships and professorships, and private gifts for buildings, will much augment the usefulness of the university and add to its capacity for doing good. But the university is now firmly placed on the most secure of rock foundations; on the pride and affection of the citizens of the State. There is no longer danger from passing storms. A retrospect of fifty years gives good reason for the most sanguine hope. The founders of the university had a far-seeing vision, and prepared by word and deed for the future. Michigan has often been looked to for a solution of a problem which she seems now to have solved.

It has been the intent of this sketch to show the progress of the university especially as a State institution resting on National land grants. If its progress has here been adequately portrayed, there seems ample ground for saying that the task of higher education and of professional training can be profitably performed by a public and popular university largely dependent for its success on popular appreciation, popular sympathy, and popular generosity. The calendar for 1890-'91 shows that



No. 15. A CORNER IN THE ART GALLERY—UNIVERSITY OF MICHIGAN.

Michigan alone sent to the halls of her own university 1,162 of her sons and daughters for education and culture.

The institution has led in certain important particulars the education of the country. It has introduced the "seminary method," the "credit system," the "diploma relation," the "teachers' special system." Its special courses in pedagogy were an innovation, as elective studies side by side with the studies of the old college system. It will be seen from this list alone, how much the University of Michigan has influenced the development of educational methods in the United States, and how it has been instrumental in introducing German methods and arrangements.

Especially during the last ten years has the university struck out into the deep with a fearlessness which is still astonishing. The result of its boldness has justified the seeming temerity—for courage has been tempered with discretion and restrained by wisdom. A fitting conclusion to the history of the present administration, as far as it has now progressed, and a fitting conclusion to a sketch of the university is an indication of its present facilities. Has not the idea of John D. Pierce, or Judge Woodward, or Manasseh Cutler, grown into a noble institution? In 1891-'92 the department of literature, science, and the arts offers for the election of students not far from 400 courses, under the direction of about 70 instructors. These courses included Greek, Latin, Sanscrit; Hebrew, Assyrian, mathematics, French, Italian, Spanish, German, Swedish, old Icelandic, Gothic, English and rhetoric, elocution and oratory, history, philosophy, pedagogy, political economy, international law, physics, general chemistry, analytic and organic chemistry, hygiene and physiological chemistry, astronomy, mineralogy, geology, biology, zoölogy, botany, physiology, drawing, surveying, civil engineering, mechanical engineering, mining engineering, metallurgy, music, bibliography.

In June, 1887, the university celebrated its semicentennial. Addresses were delivered by President Angell, Professor Frieze, Principal Sill, ex-Governor Blair, Justice Samuel F. Miller, and Hon. T. W. Palmer. Congratulatory letters were read from leading colleges and universities in the world. Congratulatory addresses were made by representatives of some of the leading universities in the United States. The proceedings have been published, and the publication is mentioned in the bibliography appended to this sketch. The writer of this report has not gone into the question of religion in the State University. It is a question which must be treated exhaustively, if at all. Those who are looking for a discussion of the question will find an admirable statement and review of the whole matter in the paper read by Prof. Henry S. Frieze on the relations of the State University to religion, and published in the volume above referred to containing the proceedings of the semicentennial celebration.

CHAPTER X.

LABORATORIES OF THE UNIVERSITY OF MICHIGAN.

NOTE.—During the past 10 years vast strides have been made in this country toward a proper and adequate teaching of the sciences. With these the university has endeavored to keep pace. The development on the polytechnic side of the university has been so great during the past 10 years that the writer has thought fit to narrate separately the history of the physical, hygienic, and mechanical laboratories. The facts in the sketches following are kindly furnished by the professors in charge of those laboratories. The hygienic laboratory is unique and alone in the country and has been thought worthy of special historical mention, inasmuch as it illustrates the relationship between the university and the State, while no worthy account can be given of the development of the university without mention of its advance in technical and thorough scientific instruction.

THE HYGIENIC LABORATORY.

[Prepared by Dr. V. C. Vaughan, December, 1889.]

In 1886 the Michigan State Board of Health petitioned the board of regents of the university to build and equip a laboratory of practical hygiene. The regents asked for an appropriation for this purpose from the legislature of 1887. This request was strengthened by petitions from the Business Men's Association and the Dairymen's Association. The appropriation was granted, and the new building was first occupied in January, 1889. There is a room for general bacteriological work which accommodates 30 students, three smaller rooms for advanced students in bacteriology, a room for gas analysis, one for water analysis, private rooms for instructors, a cold room, a disinfecting chamber, and an animal room.

The objects of the laboratory, as stated in the memorial asking for its establishment, are as follows:

- (1) Original research on the causation of disease.
- (2) The examination of food and drink for the health officers of the State.
- (3) Instruction in hygiene.

As research requires much time, and as only a few months have passed since the opening of the laboratory, it is too early to speak of the work being done in that direction. The time of one person is taken

up with the sanitary examination of drinking water sent by the health authorities of cities and villages. Each sample of water is tested—

- (1) Chemically, with reference to the amount of pollution;
- (2) Bacteriologically, with reference to the number and kind of micro-organisms present; and
- (3) Physiologically, in order to ascertain whether or not the germs present are capable of producing a chemical substance which will poison animals.

For this work a small fee sufficient to cover the actual expense is charged; this fee is turned into the laboratory fund.

The following courses of instruction are given:

- (1) The elements of hygiene; two lectures per week for one semester.
- (2) Physiological chemistry; lectures twice a week, laboratory work daily through two semesters.
- (3) Sanitary chemistry; lectures twice a week, laboratory work daily through two semesters.
- (4) Bacteriology; lectures twice a week, laboratory work daily through one semester.
- (5) Research on the causation of disease; laboratory work daily.

Students desiring instruction in other branches of hygiene are advised to take courses in some of the other university laboratories. Thus, for practical training as a sanitary engineer, courses in the engineering and mechanical laboratories, as well as those in the hygienic laboratory, are required.

The legislature of 1889 made a further appropriation of \$6,000 for the more complete equipment of the laboratory.

The laboratory also undertakes work in the way of analyses and investigations requested by the State board of health.

It will be seen from the above that while the hygienic laboratory is an integral part of the university and is under the control of the board of regents, the endeavor is to make it a practical benefit to the State at large. Any city or village desiring to introduce a public water supply and having two or more possible sources in view can send samples of these waters to the laboratory and have thorough analyses made at nominal fees. Any grocer or other individual suspecting adulteration in some article of food can have the matter tested in the same way. These analyses and examinations are, of course, limited to those which may be of public benefit. The analyses of mineral waters for private individuals or corporations are charged for at full rates, and the examination of ores is not undertaken.

THE PHYSICAL LABORATORY—THE COURSE IN ELECTRICAL ENGINEERING.

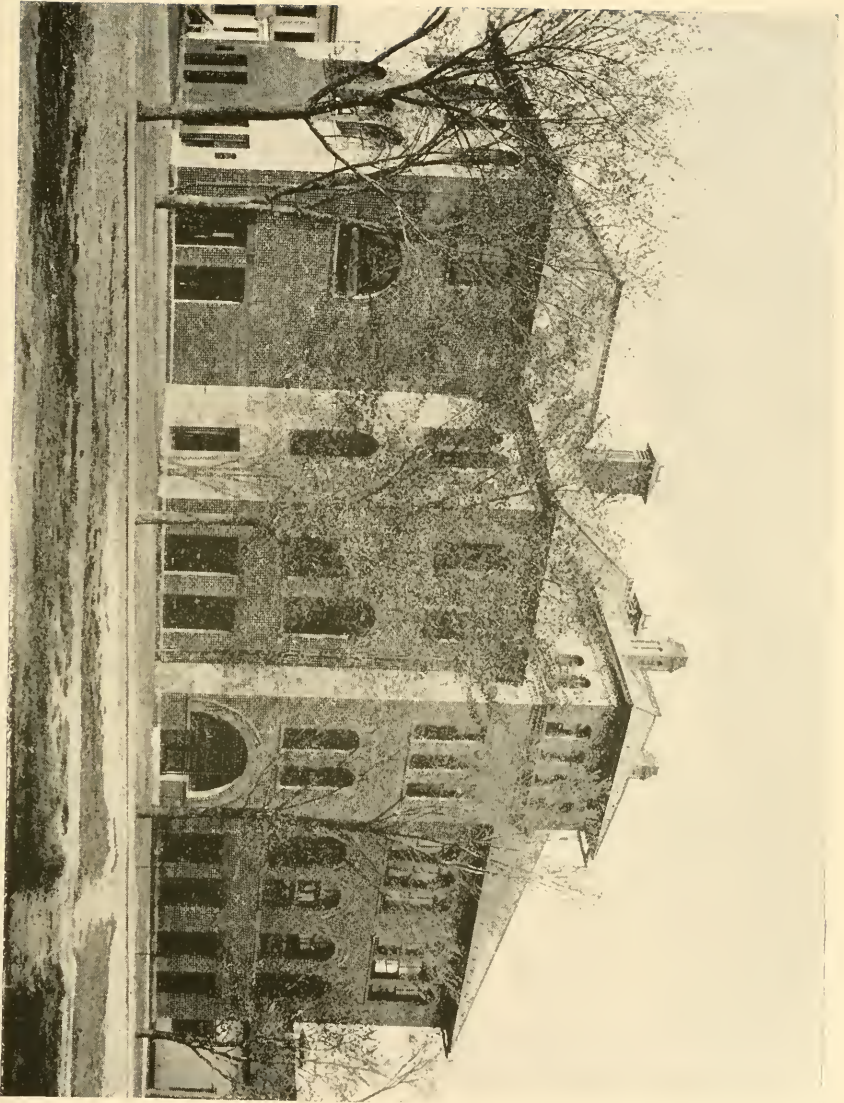
[Prepared by Prof. Henry S. Cathart.]

Previous to the year 1888-'89 the laboratory work in physics was carried on in rooms located on the fourth floor of the main university building. Upon his election to the chair of physics in 1886, Professor Cathart made a special effort to impress upon the regents the necessity of a physical laboratory and of additional apparatus as a prerequisite to any satisfactory work in the department. The president of the university called attention to the matter in his annual report, and the regents memorialized the legislature for a sum sufficient to erect a building for the accommodation of four departments, physics, physiology, histology, and hygiene. A bill was passed by the legislature appropriating \$35,000, which was less than half the amount needed for the four laboratories. The regents set aside \$5,000 for the equipment of the other departments named above, and decided to erect with the balance a laboratory of physics and hygiene.

This building was completed within the appropriation and was ready for work in the fall of 1888. It is 3 stories in height, including a high basement nearly above ground, 115 feet in extreme length, and 72 feet wide at the widest part. The basement and first floor are devoted entirely to physics, and the second floor to hygiene. The interior finish is of brick of the same quality as the exterior, and the construction was designed with especial reference to solidity. The basement floor throughout is of German rock asphaltum, insuring dryness and greatest freedom from dust. Here are located seven rooms, devoted almost exclusively to electricity, and two others for heat and light.

The engine and dynamo room, 36 by 38 feet, is well lighted by nine large windows, and serves as well for a workshop. Adjacent to this is a large room for the measurement of heavy currents, and a dark room for photometric work. A small room for the storage battery is located conveniently near, and the remainder of the basement is divided into rooms for special work, each one being provided with one or more substantial stone-capped piers and some of them having sinks and city water. The west end of the building has been kept nearly free from iron, and furnishes quite a satisfactory place for magnetic work. Copper nails and anchors, and brass, steam, and gas pipes were used in this portion of the building; also lead window weights and brass hardware.

The first floor above, reached by a broad staircase, contains seven rooms besides the hall and toilet rooms. Two private rooms are adjacent to the lecture room on one side. The lecture room is seated for 120 students, is lighted with five very large windows, which can be darkened by screens running down into pockets, and is provided with a convenient lecture table supplied with gas, water, electricity, and oxygen. A small turbine water-wheel and an electric motor furnish



No. 14. PHYSICAL AND HYGIENIC LABORATORY—UNIVERSITY OF MICHIGAN.

power for lecture purposes. A substantial pier has been brought up flush with the floor at the end of the lecture table to secure the necessary stability for delicate instruments. Double doors immediately behind the lecture table lead to the apparatus room, and from this entrance may be had to the general elementary laboratory. This is accessible also from the corridor. Heavy wood tables are placed in the middle of this room, and slate tables, supported on stone corbels, run along one side and one end. Connected with this room are a balance room and a mercurial room. The balances rest on slate slabs attached to an independent wall, and are thus nearly or quite free from the vibrations of the floor. A pier in the mercurial room furnishes a support for the cathetometer.

The instruction in physics includes, first, a course of illustrated lectures running through the entire year four times a week, one day a week additional being devoted to quiz work; second, a course of elementary laboratory work, to be followed on election by more advanced work; third, a course in theoretical physics, and special courses in mathematical electricity, geometrical optics, etc.; fourth, a course of lectures and laboratory work in electrical measurements, and a short course on batteries; fifth, a course, partly class work and partly practical work, in dynamo-electric machinery; and sixth, a course in photometry of electric lamps and electric distribution. Special attention is paid to electricity in connection with the course of study in electrical engineering, which the regents authorized in June, 1889. The collection of apparatus already offers good facilities, especially in mechanical measurements, in sound and light, and in electricity. Much new apparatus for quantitative work in this last subject has been added with the new building, including a complete electric lighting plant of fifty incandescent lamps, with the usual instruments for making tests of the same.

While more interest attaches to the study of electricity at present than to the other branches of physics, yet the other subjects will not be neglected, and facilities will be offered for advanced work in other directions than in electricity. It is proposed, however, to meet all reasonable demands for facilities and appliances to carry on successfully the electrical part of the course in electrical engineering.

The high schools of the State are now prepared everywhere to teach elementary physics. It seemed wise, therefore, to leave to them this elementary work and to devote the time of the instructors in the university to more advanced courses which presuppose a knowledge of elementary principles. This plan would exclude from university instruction in physics all students who have not had the preliminary study of the subject in their preparatory training. In order to avoid this difficulty it was proposed to make elementary physics a part of the requirement for admission of candidates for all degrees alike in the department of literature, science, and the arts. It was also urged that it was highly desirable to introduce the student to scientific study at a

much earlier period than heretofore, so that he might cultivate his taste for science along with languages, history, and mathematics. It was also thought that the early opportunity to begin the study of science along with the classics would work rather to the advantage than to the disadvantage of the latter, and would retain many students in classical courses of training who could otherwise seek courses of preparation in which science receives its due share of attention. The question was carefully and exhaustively considered by the faculty of the university for more than a year before deciding unanimously to require a year's study in physics as a condition of entering upon any course of study leading to a degree in the literary department. This requirement will go into effect in 1890.

Since practical laboratory work has become such a prominent feature in modern physics-teaching it may be well to say that physical laboratory practice in the university is confined entirely to quantitative exercises. Qualitative experiments for purposes of illustration only are performed before the class in the lectures. The laboratory student is always expected to do his work in the most accurate manner that his instruments will admit of. He thus secures a training in carefulness and attention to important details that no amount of didactic teaching can impart. He learns also that our very best efforts enable us to approach only more or less nearly to the ideals expressed in the laws of physical action; that every determination is attended with more or less uncertainty, due to inevitable instrumental errors and to errors of observation. When he has become skillful in the use of instruments and has learned to reduce the errors to a minimum, he can then take up some independent investigation with a fair prospect of success. Every physical laboratory of university grade should aim to add something to that great stock of the knowledge of nature by which science is constantly advancing. Science is thus not a thing of the past only, but also of the present and the future. Perhaps no field offers more problems for solution than are to be found in physics. It is earnestly hoped that some of them may be solved in the new physical laboratory of the University of Michigan.

ENGINEERING LABORATORY AND MECHANICAL ENGINEERING.

[Prepared by Prof. Mortimer E. Cooley, December, 1889.]

A course of mechanical engineering, parallel with the courses in civil and mining engineering, was established in the university in 1881. The addition of this course had been desired for many years in order to round out and complete the work of the university in engineering. The question of expense, an important one up to that time, stood in the way, however, and it was not until the services of an engineer of the U. S. Navy, detailed by the Navy Department under an act of Congress of 1879, were secured without expense to the university that the mechanical course was found practicable.

Assistant Engineer Mortimer E. Cooley, U. S. Navy, reported for duty to Acting President Henry S. Frieze, August 9, 1881, and immediately entered upon the work of organizing a course in mechanical engineering. A special announcement was issued, and the work was blocked out in such a way as to meet immediate demands on the part of students and at the same time to provide for any probable future development. Such a course would not have been possible except for the hearty coöperation of the departments of civil and mining engineering, to which the new course was in fact supplementary.

A demand for the advanced courses in mechanical engineering was not expected for at least two years, and no provision was made to offer them, as the teaching force was inadequate. The opening of college disclosed a much greater demand for the courses offered than was anticipated, even for the advanced courses, which latter demand was of course necessarily refused. The work thus commenced under the most favorable auspices has continued without interruption to the present time, and has given encouragement to new development in special lines of work now open to all students in engineering.

The following list comprises the courses offered at that time, together with the number of students electing same :

1. Workshop appliances and processes, pattern-making, molding, and founding, a 2-5 course	5
2. Mechanical laboratory work (not given this year).	
3. Mechanical laboratory work, a 2-5 course	5
4 Machinery, machine construction, and drawing, a 3-5 course.....	5
5. Mechanism and machine drawing, a 2-5 course	10
6. Machinery and prime movers, a 3-5 course.....	6
7. Machine design, a 3-5 course.....	1
8. Thermodynamics (not given this year).	
9. Original design, estimates, specifications, and contracts, a 2-5 course	1
10. Naval architecture (not given this year).	
11. Naval architecture, a 2-5 course	1
Total number of students	35

Courses 5 and 6 are identical with the courses of the same number in civil engineering, and the students taking them were mostly civil engineering students.

Soon after the opening of college the question of a mechanical laboratory for practical work in engineering arose. Dr. Frieze urged the expenditure of \$2,500 that had been appropriated by the legislature for the department of civil engineering, and which that department was not prepared to make immediate use of, for the purpose of making a beginning. While it did not appear possible to do much with so small a sum, it was finally concluded to expend it, and a two-story brick and wood building, 24 by 36 feet, was erected at a cost of \$1,500, leaving \$1,000 for the equipment, which consisted of two sets of woodworking tools, a wood-turning lathe, an old iron lathe, a forge and set of blacksmith tools, a small cupola furnace, a brass furnace, a blower (donated by Mr. Sturtevant, of Boston), and shafting. Power was furnished by a 4-horse-power engine and boiler combined.

The building, commenced late in the fall, was finished and ready to be occupied the second semester, and 6 students, the limit, were accommodated to work, many more being refused. Although no regular course of shop instruction could be followed at first, still the results accomplished were sufficient to show conclusively that there was a demand for such instruction on the campus, and that the university regents would be warranted in increasing liberally the facilities for work in this direction.

For the first two years laboratory work was offered during the second semester only, the time of the instructor, Mr. Cooley, being fully occupied during the first semester with other courses.

Mr. Robert Winslow was employed to instruct in the foundry, giving a part of two days per week to this work.

The regents, in their memorial to the legislature in 1883, asked for an appropriation of \$1,500 for apparatus and equipment and \$1,000 per year for two years to secure additional skilled assistance. Clarence G. Taylor, a graduate of the Worcester Free Institute, was in the fall of 1883 appointed assistant in the mechanical laboratory. At this time also the regents turned over for temporary use of the department an unused wooden one-story building about 30 by 70 feet, which was moved alongside the first structure and connected with it. This addition, with its woodworking machinery and engine, together with the new tools purchased with the \$1,500, more than trebled the capacity of the laboratory. The following comprised the equipment in 1883-'84.

The wood room, 30 by 70 feet, contained 13 benches, 13 complete sets of tools, 3 wood-turning lathes, 1 chuck-lathe, 1 jig-saw, a universal saw-bench, a molding machine, a mortiser, and a power grindstone. The engine was also placed in this shop. Two of the wood-turning lathes, the chuck-lathe and jig-saw were designed and built in the laboratory by students.

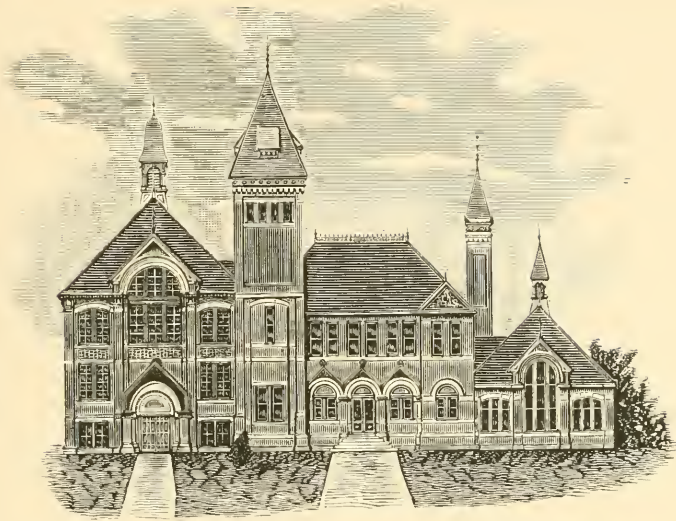
The iron room, 24 by 36 feet, contained 8 vises, 2 ironlathes, 1 speed-lathe, 1 iron planer, 2 drill-presses, an emery grinding machine and a grindstone.

The forge shop, 24 by 36 feet, contained 5 forges, with power blast, and 5 complete sets of tools, including 2 vises.

The foundry took the place of the forge shop during the second semester, and contained a molding floor with 1 foot of molding sand, the necessary molders' tools, a cupola 18 inches inside diameter and 60 inches high; also a brass furnace.

The capacities of the various shops were as follows: Wood room, 14 students; iron room, 6; forge shop, 18, in three sections; foundry, 12; total, 38 the first semester and 32 the second semester.

Up to this time the demand for admission to the laboratory courses was about twice the capacity of the shops to accommodate; it therefore became necessary to limit the admission to engineering students. The original idea had been, however, to open the mechanical laboratory to



No. 3. ENGINEERING LABORATORY, UNIVERSITY OF MICHIGAN.

all classes of students; and it is believed that such a course would be productive of the greatest good. Not only is this practical education useful to the young engineer; it is also useful to the metallurgist and manufacturing chemist, to the teacher of sciences who has occasion to improvise apparatus, to the lawyer making a speciality of patent law. In no walk of life will such a practical training as may be acquired in the mechanical laboratory come amiss.

In 1881-'85 the regents went to the legislature, asking for an appropriation of \$25,000 for new and larger buildings and equipment and \$4,000 additional for salaries of instructors.

Owing to a similar request on the part of the agricultural college, which had concluded to establish a similar department, the sum asked for was cut down to \$15,000 for building and equipment and \$1,000 for instructors' salary. With this sum a suitable building, with two stories above the basement, 40 by 80 feet, was erected and partially equipped. The old wooden carpenter shop, loaned by the regents, was removed, its machinery being transferred to the new building. This gave a wood room 40 feet by 80 feet, an iron room 40 feet by 80 feet, a large pattern and lumber loft, and a roomy basement, the forge shop and foundry remaining unchanged. The equipment receiving but little increase, however, left the capacity of the laboratory about the same as before. At this time a skilled machinist was employed to give instruction in iron work, making three instructors in shop work. The name was changed from mechanical laboratory to engineering laboratory to avoid confusion with the similar department at the Agricultural College, and also because the laboratory was for the benefit of all classes of engineers, not being confined to one class alone. Further, it was designed to have the term embrace the various shops, and also a department of investigation or experiments, which properly would be a mechanical laboratory.

In 1886-'87 the legislature made an appropriation of \$16,000, with which to complete the engineering laboratory according to the original plans, which had been made in full two years before, and to provide additional equipment; but owing to labor troubles and increase in cost of materials and building the sum was found insufficient. It was found possible, however, to finish all except a portion of the central wing and to add somewhat to the equipment. The additions comprised a forge and foundry building of one story 32 by 80 feet, and a central building of two stories above a basement, connecting the two wings, 34 by 54 feet. A tower contains an iron tank of 100 barrels capacity at an elevation of 75 feet for hydraulic experiments.

The forge shop, 30 by 40 feet, now contains 12 forges with anvils and complete sets of tools, supplied by power blast, the smoke being removed by an exhaust fan. The foundry, 30 by 40 feet, contains an 18 inch by 6-foot cupola, two brass furnaces, a core oven, and a hydraulic elevator. Provision has been made for a larger cupola and a

traveling crane. The central building contains a basement for storage purposes; the first floor contains a large washroom with lockers, closets, engine room with a 50-horse-power Reynold's Corliss engine, and superintendent's office; the second floor contains well-lighted drawing-rooms and a blue-print room.

With the \$9,500 appropriated in 1888-'89 the laboratory has been finished and is now receiving additional equipment.

An instructor in forging has been added, so that now in addition to the superintendent there is a skilled mechanic in each of the four shops. The capacity of each of the shops is approximately as follows:

Wood room, 18 at one time, two sections.....	36
Iron room, 12 at one time, two sections.....	24
Forge shop, 12 at one time, six sections.....	72
Foundry, 12 at one time, three sections.....	36
Total.....	158

The experimental or mechanical laboratory is being fitted up with special reference to steam engineering, hydraulic and pneumatic work, and to tests of various kinds of machinery for capacity and efficiency. Standard instruments are being provided, so that the university may possess the means of correcting any apparatus sent to it for that purpose. Manufacturers have been most liberal in making the university donations, the total now received aggregating some \$7,000 or \$8,000, or nearly \$1,000 per year for this department alone.

Although considerable space has been devoted to the laboratory, it must not be inferred that the theoretical work is sacrificed to the practical work. The laboratory courses constitute only one portion of the engineer's education as received in the university, as will appear from an inspection of the technical courses as offered in the calendar.

Lectures on naval architecture were given the second semester of the first two years, but owing to a greater demand in other directions were dropped for the next four years. They were again taken up the first semester of 1888, and with the addition of a course on shipbuilding and one on marine engines are now offered regularly in the university as an alternative part of the work leading to the degree of B. S. in mechanical engineering.

Summary of students in attendance at the University of Michigan from its organization to the present time.

Years.	Departments.						Total.
	Science, literature, and the arts.	Medicine.	Law.	Homeo- pathic.	Dental.	Phar- macy.	
1841	53						53
1845	53						53
1846	70						70
1847	72						72
1848	89						89
1849	77						77
1850	72						72
1851	64	95					159
1852	57	159					216
1853	60	162					222
1854	93	151					244
1855	155	133					288
1856	223	152					375
1857	285	167					452
1858	276	137					413
1859	287	143					430
1860	265	164	90				519
1861	273	242	159				674
1862	270	216	119				605
1863	266	252	134				652
1864	295	340	221				856
1865	279	414	260				952
1866	354	467	385				1,206
1867	335	525	395				1,255
1868	418	418	387				1,223
1869	422	358	342				1,122
1870	477	340	309				1,126
1871	488	315	307				1,110
1872	509	350	348				1,207
1873	476	357	331				1,164
1874	484	314	314				1,112
1875-76	452	312	321	24	20		*1,127
1876-77	369	285	309	51	33	64	†1,110
1877-78	365	296	384	73	43	69	1,230
1878-79	441	329	406	63	62	71	1,372
1879-80	448	350	395	70	83	81	1,427
1880-81	521	380	371	88	86	88	1,534
1881-82	513	380	395	71	75	100	1,534
1882-83	524	369	333	58	69	87	1,440
1883-84	539	332	306	57	67	77	1,377
1884-85	524	334	262	34	80	61	1,295
1885-86	596	327	286	49	82	61	1,401
1886-87	693	321	338	62	91	67	1,572
1887-88	748	310	341	74	104	90	1,667
1888-89	824	371	400	73	108	106	1,882
1889-90	1,001	372	522	72	103	83	2,153
1890-91	1,170	375	581	71	132	91	2,420

* Two counted twice.

† One counted twice.

CHAPTER XI.

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The early condition of Michigan can be adequately studied only by reference to contemporaneous records and publications, including gazetteers and travelers' journals. The first part of this history has been written from reference to many such documents which need not be here stated. The History of Detroit and Michigan, by Mr. Farmer, has much of value in this connection, as before suggested in note to first chapter. Memorials of a Half Century, by Bela Hubbard, and the articles by Judge C. I. Walker, in Michigan Pioneer Collection, will throw light on the condition of Michigan during the territorial period and before.

THE MICHIGAN STATE NORMAL SCHOOL, YPSILANTI, MICHIGAN.

By Principal J. M. B. SILL.

ITS SCOPE AND PURPOSE.

The field which this institution occupies lies largely within the limits of secondary education. In several of its departments, however, instruction goes beyond the lower boundary line of higher education and enters fairly into the area of collegiate work. The dividing line between primary and secondary and that between secondary and higher education are not, as yet, accurately and absolutely determined. In the foregoing statement concerning the ground covered by the academic courses offered in the normal school, the line established by the University of Michigan in the requirements which it makes upon the best high schools as preparation for entry into its regular courses has been regarded as the upper or higher limit of secondary education. In other words, the point at which in any line of studies the accepted preparatory schools close their work and at which the university begins its courses is, for the purposes of this paper, taken as the dividing place between secondary and higher education, and it has been deemed proper to regard such portions of courses of study as are regularly pursued in the normal school beyond this point as pertaining to higher education.

Judged by this criterion, the department of mathematics in the normal school goes beyond the line of secondary instruction when it offers to its students in the scientific courses tuition in higher algebra, trigonometry, and surveying.

In history this line is passed by the offer of courses in English constitutional history, in institutes of history, and in the history of education.

In the same higher field are offered, in English, an advanced course in American literature, a course in masterpieces, and a course in history of the English language and Anglo-Saxon; in physical science, a course in physical technics, an advanced course in chemistry, another in physics, and a course in astronomy; in natural science, a course in comparative zoölogy and another in geology; and in philosophy, two courses in psychology. A course in advanced drawing carries the student considerably beyond the university requirements for admission,

Fairly within the field of higher education, as herein defined, are also one advanced course in French, three in German, and studies in German and French literature.

The courses in Latin and Greek also exceed somewhat those offered in schools which are strictly secondary.

Of the advanced courses specially noted above, those in American literature, history of education, physical technics, chemistry, astronomy, and comparative zoölogy cover, each, fifty recitations or lectures; all others are full half-year courses.

To the extent indicated above, then, the normal school concerns itself with the higher education of its pupils. Its other work is purely secondary or else technical. Its advance into higher work—into the fields of higher education—has been gradual and by slow steps. It has thus far hardly kept pace with the needs and demands of the public schools. The highest judicial State authority has, in effect, decided that public common-school education in Michigan extends beyond mere elementary tuition, that to it rightfully belongs the whole ground occupied by our best high schools, and that its upper limits extend at least far enough to include all that is generally conceded as pertaining to secondary education.

The function of the normal school is to equip teachers, both professionally and academically, for duty in any place in these public schools to which they may be called, whether such schools are primary or secondary in the character of the instruction offered by them. No teacher is so equipped unless his own studies have been carried considerably beyond the limit to which he is required to conduct his own pupils. It follows, then, that the normal school graduate ought to be furnished with an education that carries him considerably beyond the limits of any secondary instruction that he may be called upon to give. In other words, he ought to pursue his own course of training so far that there shall be an ample margin between what he knows and what he may at any time be called upon to teach. The extent of this margin is a matter upon which opinions will differ, but the State board of education, with which rests the responsibility of the conduct of the normal school and its policy, have taken steps in the direction of so enlarging some of the present courses of study that students who satisfactorily complete them shall fairly earn the honors that are usually awarded to those who finish a complete collegiate course. The margin of knowledge alluded to above, in case of those who complete advanced courses in this normal school, comprises a liberal course in literature, art, and science.

OUTLINE OF HISTORY.

The building originally erected for the purposes of this institution was dedicated with appropriate ceremonies on the 5th day of October, 1852. As early as 1836, Hon. John D. Pierce, then recently chosen

State superintendent of public instruction and the first incumbent of that office in Michigan, gave, in his first report to the legislature, an able review of the Prussian normal schools and urgently recommended the adoption of a similar plan for the advantage of free schools in Michigan.

In subsequent reports he kept this subject, which he deemed of prime importance, before the people and the legislature. His immediate successors in the State superintendency, Hon. Franklin Sawyer and Hon. Oliver C. Comstock, were equally urgent in presenting the necessity for the establishment of a normal school and in setting forth the advantages to popular education that such a step would secure. Hon. Ira Mayhew, the fourth in the line of State superintendents, pressed the subject upon public attention with characteristic zeal and perseverance.

The result of these many years of earnest advocacy by a succession of able and devoted State superintendents was the enactment in 1849 of a law providing for the establishment of a State Normal School. This new educational enterprise was placed in charge of a State board of education consisting of three persons appointed by the governor, the lieutenant governor, and the superintendent of public instruction, who was *ex officio* secretary of the board. The legislature of 1850 added to these the State treasurer, who was *ex officio* treasurer of the board. During the same year the new constitution was adopted. This provided for a board of four persons, three of whom are elected by the people and hold office for six years, one being chosen at each biennial election. The fourth member is the superintendent of public instruction, who is *ex officio* a member and the secretary of the board. The first election under this provision of the constitution was held in November, 1852, and the State board of education, thus constituted, began its labors in January, 1853, and has continued its functions without change or interruption until the present date.

Meanwhile, the board appointed before the adoption of the constitution had proceeded to locate the school at Ypsilanti, Washtenaw County. Several towns and cities made proposals and offered inducements for the location of the normal school, but the most favorable proposition came from the citizens of Ypsilanti. Their offer included the following items: an eligible site, a subscription of \$13,500, the use of temporary buildings, and a sum of money for the payment of salaries of the teachers of the model department for a term of five years. Accepting this offer, the board, consisting of the lieutenant-governor, the superintendent of public instruction, and Samuel Barstow, Randolph Manning, and the Rev. Samuel Newberry, proceeded at once to enlarge the site donated by the purchase of an additional tract of land, and to erect a brick building 55 by 100 feet in dimensions and three stories in height, at a cost of \$15,200. This building, finished and furnished, was ready for use and was dedicated, as has already been stated, on October 5, 1852.

The school was first opened for the reception of students in March 1853. Its active existence therefore covers a period of more than 36 years.

Its affairs have been administered, under authority of the board of education, by several principals, the order and duration of whose services are shown in the following table :

Name of principal.	Period covered.	Years of service.
Adonijah S. Welch.....	1853-1865	12
David P. Mayhew.....	1865-1870	5
C. Fitz Roy Bellows (acting principal).....	1871	1
Joseph Estabrook.....	1871-1880	9
Malcolm MacVicar.....	1880	1
Daniel Putnam (acting principal).....	1881-1883	2
Edwin Willetts.....	1883-1885	2
Daniel Putnam (acting principal).....	1885-1886	1
John M. B. Sill.....	1886-	5

Of these, the first principal, Adonijah S. Welch, and his immediate successor, David Porter Mayhew, have died within three years of the present date. They were men of extraordinary power and devotion, and, each in his own way, they rendered noble service to the normal school and to the cause of free education in Michigan.

During the existence of the normal school, it has graduated in its several courses 1,761 young men and women, nearly all of whom have been engaged as teachers in the schools of Michigan.

The average number of graduates in the last five classes has exceeded 100.

The following table shows the annual enrollment in the normal school proper (not including the training school) for the last 21 years :

1870-'71.....	231	1877-'78.....	338	1884-'85.....	519
1871-'72.....	296	1878-'79.....	292	1885-'86.....	628
1872-'73.....	329	1879-'80.....	298	1886-'87.....	675
1873-'74.....	364	1880-'81.....	318	1887-'88.....	714
1874-'75.....	409	1881-'82.....	330	1888-'89.....	803
1875-'76.....	449	1882-'83.....	398	1889-'90.....	811
1876-'77.....	366	1883-'84.....	475	1890-'91.....	909

MEANS OF SUPPORT.

Under the law of 1849 ten sections of salt spring lands were appropriated for the purpose of defraying the expense of erecting a building and for the purchase of the necessary furniture, apparatus, books, etc. Another fund, called the normal school endowment fund, was also established by a grant of fifteen sections of salt-spring lands, and the board of education was directed to locate the lands comprising both sections. In 1850 the two grants were consolidated into one, constituting a normal school endowment fund. From the proceeds of these land grants a sum of about \$3,000 was used in the erection of the original school building. The remainder of the proceeds of the sale of the lands is now held by the State, and the interest at 6 per cent. is used annually in the maintenance of the school.

Last year (ending June 30, 1891) the interest on this permanent fund amounted to	\$5,260.19
Receipts from admission fees, etc., for the year.....	5,458.21
	10,718.40

The current expenses were \$64,636.40, and the balance, \$53,918 over the \$10,718.40 as shown above, was met by legislative appropriation. These figures, for 1889-'90, are given to show how the most of the current expenses are met. The legislature at each biennial session appropriates an amount sufficient to cover the estimated current expenses of the school, less the interest on the permanent fund and the amount received from admission fees, etc. This appropriation has always been willingly made.

COST OF TUITION TO THE STUDENT.

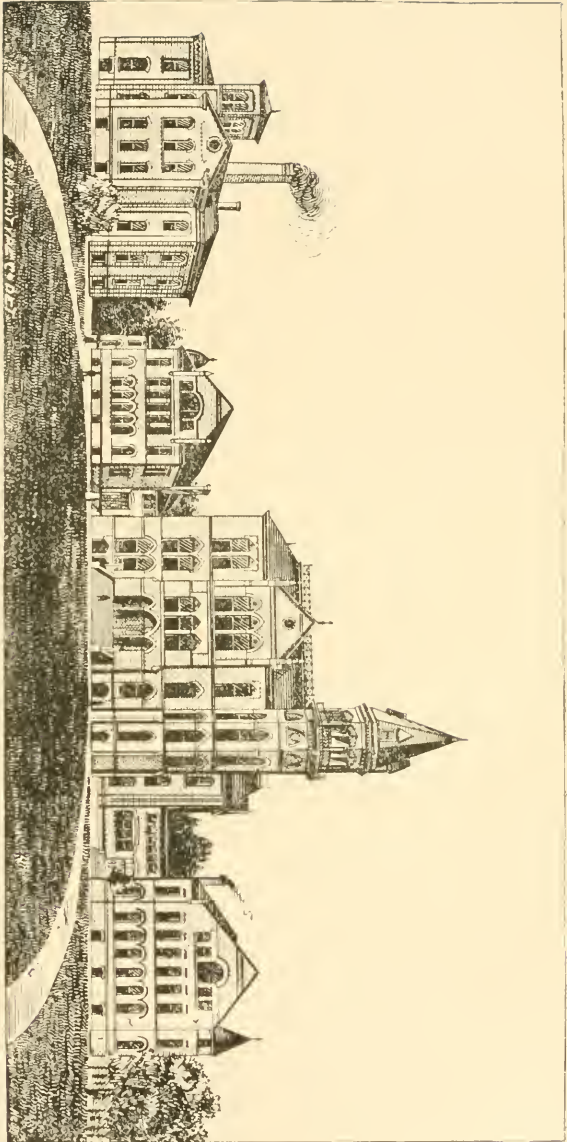
Every student, except such as receive appointments from members of the legislature, pays an entrance fee of \$10 per year. But this expense is fully offset by the fact that the State, through the board of education, furnishes text-books free from expense to the pupil.

BUILDINGS.

The original building, already mentioned in this sketch, was partly destroyed by fire in October, 1859, but was at once rebuilt with money realized from insurance. The building now occupied by the students Christian association was begun by the State agricultural society and the citizens of Ypsilanti in 1854. The intention was that it should be occupied as a museum for the agricultural society and the normal school. Under this arrangement the building was inclosed and a portion of it finished. But the plan miscarried, and in 1869 the legislature appropriated \$7,500 for its completion, and \$3,250 to reimburse the agricultural society for its outlay, and the building became a part of the normal school plant. In 1878 a new front to the main building was erected, 85 by 86 feet in size and three stories above the basement in height. The cost of this addition was \$43,356, of which the citizens contributed the sum of \$2,106.

In 1882, another addition, 50 by 100 feet on the ground and two stories in height, was built, the lower floor for the accommodation of the training school, and the second story for the uses of the normal school proper.

In the school year 1887-'88, two wings were built, one on the north side and one on the south, each about 40 by 80 feet on the ground and two stories in height. These have furnished convenient rooms for the mathematical department, a beautiful and commodious library, four much-needed society rooms, a lecture room for classes in geography and drawing, two large assembly rooms, one for the young men and one for the young women, a model primary room and a kindergarden. The cost of these additions, furnished and steam-heated, was \$60,000. The



MICHIGAN STATE NORMAL SCHOOL, YPSILANTI.

entire cost to the State for buildings, furniture, etc., during the 36 years of its existence, is about \$145,000.

As the main building now stands it is in the form of a rectangular cross, the length and breadth each being nearly 300 feet. At present the building in all its parts is fully used in the daily work of the school. There is room enough for the present attendance, but no more than the actual needs of the school require.

ADMINISTRATION.

The State board of education, elected directly by the people, as shown in a previous paragraph, have sole and complete authority to manage the affairs of the normal school, under certain general provisions of law, according to their best discretion.

There is of course an indirect and wholesome restraint arising from the power of the legislature to give or to withhold necessary appropriation; otherwise, they are untrammled. The present board of education is constituted as follows:

Hon. Samuel S. Babcock, president, Detroit; term expires December 31, 1892.

Hon. Ferris S. Fitch, superintendent of public instruction, secretary, Lansing; term expires December 31, 1896.

Hon. Perry F. Powers, treasurer, Cadillac; term expires December 31, 1894.

The chief function of this board is its charge of the normal school. Michigan has wisely chosen to maintain, thus far, but one normal school, and at least to defer the establishment of others until the one has gained substantial strength and solidity.

PRESENT ASPECTS OF THE SCHOOL.

Reference to a preceding table will show stages of the growth, as to numbers of students, which has thus far characterized the institution. The following list of its corps of officers, professors, and instructors will also aid in giving a true idea of its present status:

JOHN M. B. SILL, M. A., principal.

Mental and Moral Science, and Theory and Art of Teaching.—Daniel Putnam, M. A., vice-principal.

History and Civil Government.—Julia A. King, M. A., preceptress; Annah May Soule, assistant; Nellie M. Stirling, instructor.

Music and Director of Conservatory.—Frederic H. Pease.

Mathematics.—David E. Smith, Ph. M., Ph. D.; Wilbur P. Bowen, instructor; Ella M. Hayes, instructor; Ada B. Norton, instructor.

German and French Languages.—August Lodeman, M. A.; Annie A. Paton, assistant.

Training School.—Austin George, M. A., director; William H. Brooks, critic in grammar grades; Nina C. Vandewalker, critic in primary grades; Mary Lockwood, kindergartner; Lillian Crawford, model primary.

Natural Sciences.—Lucy A. Osband, M. A.; Clarence D. McLouth, assistant.

Physical Sciences.—Edwin A. Strong, M. A.; Charles E. St. John, B. S., assistant; Walter F. Lewis, assistant.

English Language and Literature.—Florus A. Barbour, B. A. ; Lois A. McMahon, assistant ; Abbie Pearce, assistant ; Hiram W. Miller, assistant.

Drawing and Geography.—John Goodison.

Latin and Greek Languages.—Benjamin L. D'Ooge, M. A. ; Helen B. Muir, assistant.

Penmanship.—P. R. Cleary.

Librarian.—Florence Goodison.

Clerk.—Frances L. Stewart.

THE STATE AGRICULTURAL COLLEGE.

By President O. CLUTE, *Lansing, Michigan.*

As early as 1844 the friends of agriculture and of education in Michigan began to write and speak in favor of more thorough teaching in the public schools of those sciences that bear on agriculture and of the establishment of a school of agriculture. In the "Michigan Farmer" for February, 1844, Jonathan Shearer ably advocates more thorough education of farmers. In the first annual address before the Michigan State Agricultural Society in Detroit, September 26, 1849, Hon. E. H. Lothrop spoke with point and force of the great need of more thorough training in botany, chemistry, physiology, zoölogy, and mechanics, because of their direct bearing on agriculture, and he appealed strongly to farmers to give their sons and daughters a better education.

In an address delivered at Marshall, before the Calhoun County Agricultural Society, September 20, 1849, Hon. Wm. M. Fenton, lieutenant governor, argued at length in favor of education in the science and practice of agriculture.

On October 11, 1849, Joseph R. Williams, who a few years later became the first president of the State Agricultural College, gave a most vigorous address before the Kalamazoo County Agricultural Society, at its fourth annual fair, in which he called on all farmers to educate themselves and their children.

From time to time these and other friends of an agricultural college kept the matter before the public by articles in the papers, by discussions in the meetings of the State Agricultural Society and in other meetings, by petitions to the legislature, and in other ways. In 1849 the executive committee of the State Agricultural Society, at its annual meeting in Jackson, December 19, adopted a resolution offered by Bela Hubbard, requesting the legislature to establish an agricultural college and model farm:

"*Resolved*, That our legislature be requested to take such legislation as shall appear necessary or expedient for the establishment of a State central agricultural office, with which shall be connected a museum of agricultural products and implements and an agricultural library, and as soon as practicable an agricultural college and a model farm."

Mr. Hubbard, Mr. Titus Dort, and Mr. J. C. Holmes were appointed a committee to memorialize the legislature on the subject, and in January, 1850, Mr. Hubbard, for the committee, memorialized the legislature in behalf of an agricultural college in an able paper, which is printed in the Transactions of the State Agricultural Society, 1850, pp. 53-58. By the efforts of this committee the legislature in 1850 passed a joint resolution calling on Congress for a gift to the State of 300,000 acres of land for the support of agricultural schools in Michigan. Thus was begun that agitation in Congress that led 12 years later to the passage of the Morrill bill, giving the States 30,000 acres of land for each Senator and Representative in Congress for the support of schools of agriculture and the mechanic arts, under which bill Michigan received 240,000 acres of land.

Mr. J. C. Holmes, mentioned above as member of the committee to memorialize the legislature in behalf of an agricultural college, had been chosen secretary of the State Agricultural Society, March 23, 1849. He was an educated gentleman, imbued with the modern spirit, an enthusiastic agriculturist, and a strong believer in agricultural education. He became at once a strong worker for an agricultural college, and for several years gave much time and effort to leading public thought towards such a school.

The second annual fair of the State Agricultural Society was held in Ann Arbor in 1850. Here, on September 26, Joseph R. Williams gave the annual address, in which he spoke eloquently and forcibly in behalf of special schools of agriculture.

On June 3, 1850, a convention for the revision of the State constitution met in Lansing. Some of the members of this convention were friends of agricultural education, and were not unfaithful to the cause in their convention work. On June 10 Mr. Samuel Clark, of Kalamazoo, moved the following:

Resolved, That the committee on education be instructed to inquire into the expediency of providing for the establishment of an agricultural school and model farm connected therewith.

The committee on education, having considered the matter, included in its report a mandatory provision for an agricultural school. It is found in Article XIII, section 11, of our present State constitution. A part of this section reads as follows:

The legislature shall encourage the promotion of intellectual, scientific, and agricultural improvement; and shall, as soon as practicable, provide for the establishment of an agricultural school.

Having secured a constitutional provision commanding the legislature to provide for an agricultural school, the friends of the enterprise directed their efforts to the legislature. A portion of these friends were workers in the State Agricultural Society; the secretary, J. C. Holmes, being one of the most active and untiring. In 1852 he referred to the subject in his annual report to the society, and read communications on

the subject from Francis W. Shearman, superintendent of public instruction, and from Dr. Tappan, president of the State University. A committee was appointed to urge upon the legislature immediate action. A memorial was presented to the legislature in 1853, but that body took no action. Again in December, 1854, Mr. Holmes brought the subject before the State Agricultural Society, and on motion of Hon. Justus Gage, it was

Resolved, That a committee be appointed to draft a petition to the legislature praying that honorable body * * * to take in consideration the propriety of appropriating a sum of money sufficient for the establishment of an agricultural school, with the addition of an experimental farm, where experiments and theoretical agriculture will be taught on a scale equal to our best colleges.

The committee appointed to draft a petition in accordance with the above resolution was Messrs. Justus Gage, John Starkweather, and S. M. Bartlett. On the same day Mr. Gage offered the following:

Resolved, That an agricultural school should be connected with the Normal School at Ypsilanti.

On this resolution there was an able debate of some length. Mr. Bartlett offered the following as a substitute for the motion of Mr. Gage:

Resolved, That an agricultural college should be separate from any other institution.

Mr. Gage withdrew his resolution and advocated the passage of this substitute, which was adopted.

Here, for the first time, came to a definite determination in the councils of the State Agricultural Society a subject that had been much considered in public and private discussion. Many earnest and able friends of an agricultural school believed its interests would be furthered if it were a department of an existing school. They had worked, and continued for some time longer to work for this end. But those who favored a separate school won a victory in the passage of this resolution. They still had much work to do before their aim was won, but the passage of this resolution was the beginning of the end. The spindling proportions of every agricultural school that has been made a department of another school shows that in thus working to establish the Michigan Agricultural College on an independent basis they builded well.

Two days later Mr. Gage reported to the meeting a memorial to the legislature, praying for an appropriation sufficient to purchase a body of land suitable for an experimental farm and for the erection of suitable buildings for an agricultural school, placing it upon a basis of its own, separate from any other institution of learning, and for the endowment of the same in such manner as shall place it upon an equality with the best colleges of the State.

This memorial was adopted.

A petition to the legislature was prepared by a committee appointed for the purpose, asking for the establishment of an agricultural school

without delay. This petition was circulated widely through the State. An original copy of this petition is before me, and folded with it is a printed slip dated Detroit, December, 1854, asking that signatures be procured and the petition forwarded to Lansing by January 10, 1855. This slip is signed by J. C. Holmes. Mr. Bartlett and Mr. Holmes visited Lansing in January, 1855, to work for a bill establishing the school. After a few days Mr. Bartlett was compelled to go home, but Mr. Holmes remained most of the winter at his own expense, working for the bill.

A bill was introduced into the house on the 19th of January, 1855, by Mr. N. Power, for the committee on agriculture and manufactures, for the establishment of a State agricultural school, which, after passing through the usual routine, was lost on February 7 by a vote of 31 to 39.

In the senate a bill for the establishment and endowment of an agricultural college was introduced on February 3, 1855, by Mr. Pattison, of the committee on agriculture. This bill was passed on February 9 by a vote of 24 to 5. Going to the house it passed on February 9 by a vote of 52 to 13.

This bill provided that the college should be located on a farm of not less than 500 acres within 10 miles of the city of Lansing, the farm to be selected by the executive committee of the State Agricultural Society, subject to the approval of the State board of education, which was to purchase the land and establish and control the college. The committee of the State Agricultural Society, through its secretary, J. C. Holmes, advertised for proposals for the sale of land, and met in Lansing on June 12, 1855, to make the selection.

The committee on June 13, 14 and 15 examined the several sites offered, and chose one belonging to A. R. Burr, in the townships of Meridian and Lansing, embracing 676.76 acres.

By the legislative act establishing the college its control was given to the State Board of Education. This board secured plans and let contracts for the erection of College Hall, a boarding hall, which by close crowding could take in about 80 students, a small brick stable, and four cottages for professors' residences. These were completed by May, 1857. Meantime the faculty had been appointed by the board, consisting of Joseph R. Williams, M. A., president and director of the farm; Calvin Tracy, M. A., professor of mathematics; Lewis R. Fiske, M. A., professor of chemistry; Robert D. Weeks, professor of English literature and farm economy, and secretary; John C. Holmes, professor of horticulture; and Enoch Banker, assistant in chemistry. May 11, 12, and 13, 1857, entrance examinations were held and 73 students were admitted. On the 13th of May the exercises of dedication took place.

From the first the instruction in the college classes was of a high order. Joseph R. Williams was a man of strong character. A broad and liberal man, he made a forcible impression upon all students. Calvin Tracy had a clear and incisive method as a teacher. L. R. Fiske, now and

for many recent years the successful and honored president of Albion College, was then a young man, energetic and enthusiastic in his work as chemist. Professor Weeks and Mr. Banker gave able help. At the beginning of the second year came T. C. Abbott from the principalship of the high school in Ann Arbor. The students came largely from the farms and villages, though representatives from the cities were by no means wanting. They were about like all students, having the usual amount of boy nature; rooming four in a room in the one small dormitory; meeting all winter in the chapel at 5:30 in the morning for prayers; reciting in company in the few classes that at first were formed; swinging side by side the ax in felling the great oaks and beeches that stood thick all over the college farm; watching in eagerness the lapping fire leap through the dry leaves and branches when the match was put to the fallow; laughing with the unquenchable jollity of youth at the grime and blackness that transformed their boyish faces into something strange if not rich as they hauled together the blackened logs after the first burning; working in gangs with the stump machine to pull the stumps that frustrated the first feeble attempts at farming; shut off by location from almost all association except that of the college itself; taking long walks together through the woods, where the ghostly beech-drops and the showy orchis grew; and to the not distant swamps, where the feet sink out of sight in the deep sphagnum; and the delicate gold thread, and the mysterious sun-dew, and the flaunting blooms of the pitcher plant, and the softer beauty of the splendid lady's slipper soon filled their botany boxes with richest treasure. What wonder that there grew up among the boys a warm fellowship with each other and with honored professors, and a strong and loving appreciation of the school that, in the very limitations of its first beginnings, offered to them better conditions for the acquirement of culture and character than mere lectures and libraries and laboratories can give.

Joseph R. Williams had a difficult task as president of the *first State agricultural college in America*. There had been a few beginnings in schools where agriculture was somewhat taught or somewhat practiced, but the State Agricultural College of Michigan was the first school of agriculture in which the union of scientific and literary training in a four years' course equivalent to that of the ordinary classical college was seriously attempted. President Williams had worked for the establishment of a school of agriculture. He believed thoroughly in its mission. He gave himself fully to the effort to evolve his ideal school from the chaotic elements that necessarily came into his hands. His inaugural address shows that he was a thinker and pioneer in the path of the "new education." He advocated culture, broad, deep and high. This culture he believed possible no less for the farmer and mechanic than for the clergyman, the lawyer, and the doctor. He believed, too, that this culture could be acquired even more fully by the study of the world around us, as that world is made known to us in the various

sciences of to-day, and by the study of our mother tongue and the many masterpieces of poetry and eloquence it affords, than by the study of the sciences and languages and literatures of ancient nations, however noble and cultivated those nations were. He worked heroically. The course of scientific training, the laboratory work, and the admirable work in the study of the English language and literature, all of which have characterized the college during all its days, were begun under his fostering leadership. The daily labor of students on the farm and in the gardens, begun as soon as the college opened, had his careful thought and effort to make it most valuable to students and to the college, and commended itself so well that it is pursued to-day, a feature of the school for which its most devoted friends have the strongest favor.

But President Williams began a work so new, and so difficult in itself, and made so much more difficult by the many limitations which hedged in the early days of a college established in the woods, that troubles soon arose. They culminated in his resignation in the early part of 1859, when he had been president of the college less than two years. Then for about two years the office was vacant, Prof. L. R. Fiske serving as president *pro tem*. In February, 1863, T. C. Abbot was chosen president. He came to the college as professor of English literature in 1858, and by his ability as a teacher, his genial temperament, and his cautious and yet strong method, made himself a power with students, faculty, and the board. He was a man of warm sympathies; quickly responsive to truth, justice, honor, right; conservative in temperament, but fearlessly progressive in thought. On first coming to the college he became a warm friend of President Williams, and studied with appreciation his ideas as to what the agricultural college should become. This study led him to a cordial acceptance of the main ideas that had inspired the early friends of the college in their efforts for its establishment, and that had been taught and practiced by President Williams during his brief administration. With clear perception of the many difficulties in the way, with keen vision of the large growth and wide influence that would come to the college when those difficulties were conquered, he worked for more than 20 years with a rare patience that nothing could ruffle, with a quiet courage that nothing could daunt.

THE COLLEGE COURSE.

The agricultural features of the college include two elements. There is, first, the labor system, by which all students engage daily in labor on the farm, or in the gardens. Following the lead of President Williams, Dr. Abbot endeavored to foster and develop this system. Under him and the able professors of agriculture and horticulture, who were at the head of these departments, the labor was made as far as was then possible, educational. Prof. J. C. Holmes and Prof. George Thurber in horticulture, and after them Prof. A. N. Prentiss in the same de-

partment, and Prof. M. Miles in agriculture, all gave to the development of the labor system their hearty sympathy and coöperation. Students worked under thoughtful direction. They were taught how the different operations of farm and garden work should be done, how all tools and machines should be used and cared for, how crops in field and garden should be grown and harvested, how stock should be bred, stabled, and fed. The labor was partly for education, partly for profit. Students were paid a small sum per hour for their work, the sum received being enough to pay somewhat more than half their board. But the pecuniary results to the students, though to them important, have never been the main argument for the system. This is found in the disciplinary effects of the work, in teaching how to work, in developing a taste for work, in the training of character, and in the bringing of scientific theories of the class room to the practical test of the field and garden. This system, begun with no experience, has grown with the college, and has become one of the strongest factors in its prosperity.

While labor has thus been an essential element in the ideas that inspired the early friends of the college, and in the practice of those who have administered the college since its organization, it is by no means the only essential element. To unite labor with science, literature, and philosophy was the great purpose of those who labored to found the college; it has been the strong endeavor of those who, since its foundation, have labored to develop it. Mere labor on farm or in garden may be done by a slave or a boor. Intelligent labor, that shall trace causes to effects; that shall understand some of the causes that underlie plant growth, the cultivation of the soil, the care of crops, the breeding and feeding of animals, the selection of varieties, the production of new varieties, the chemistry of the manure heap and the hay-mow and the meal bin, the biology of the microbes that produce anthrax and tuberculosis, the subtle influences by which such dangerous microbes can be fought—all this intelligent labor requires education not less complete than that given to what have been mistakenly called much nobler pursuits.

To this end was established the chair of agriculture, the duty of which is to train students in the intelligent pursuit of agriculture. To it belongs education in the cultivation of the various farm crops, harvesting, preserving and giving them as feed; the breeding, care, and feeding of the different kinds of stock, the care and application of manures, etc. The post of Professor of Agriculture is a difficult one to fill. It requires a man of large practical ability, of large scientific attainments, and of aptness to teach. To find men possessed of these qualifications is difficult in any branch. It is doubly difficult in a branch in which science is in its infancy and in which very few men have had any scientific training. The college has often found it impossible to get men who had all the qualifications for this post. The practical men have not been scien-

tific. The scientific men have not been practical. If the right man for this place could have been found at the beginning, the success of this department would have been more largely and more quickly achieved. In 1865 Dr. Manly Miles was elected Professor of Agriculture. He had been a professor in the college for several years previous, and had become acquainted. In spite of the great difficulties this department has been so conducted as to win the respect of those most competent to judge.

Closely related to the chair of agriculture is that of horticulture; still there has not been here so much difficulty in securing competent professors. But there has been great difficulty in retaining them, several able men having been called from this chair to similar work elsewhere. To this department are due the beautiful lawns and groves and drives that now, in a campus of sixty acres, surround the numerous college buildings. The large vegetable garden, and fruit garden, and orchard, and laboratory, and propagating houses are always in fine order, and in summer attract numerous visitors.

At the very beginning, before a student had been examined for admission a chemical laboratory, finely equipped for its time, had been provided. This department at once became prominent and has so continued. A new laboratory was built in 1872; this was enlarged in 1881. The apparatus has increased from year to year, and now is complete for the needs.

The department of botany was organized in 1860. At its head there has always been an able man. The instruction given has been as good as could be found anywhere. A building adapted to its needs was erected in 1880, the first of its kind in America. Its museum, occupying the second story of this building, is one that attracts much attention.

The department of zoölogy has had leaders who have left a strong mark upon it. For its use the second story of a fine building, erected in 1881, was designed. Here it has lecture rooms, work rooms, and museum.

Physics, mathematics, engineering, and drawing are all taught by strong men, who send out students whose work tells well for their training.

History, political economy, logic, ethics, the science of mind, have considerable time given to them and serve as an admirable balance to the physical sciences and mathematics. Their influence in giving a symmetrical training and in leading students to large humanitarian questions is most helpful. The English language and literature have always received careful attention. Special study has been given by each class to some of the master-pieces of English literature. By rhetorical work, and by constant practice in written work in all the departments, and by public speaking the ability of the student to use English has been trained.

As years have gone by the external aspect at the college has greatly changed. The forest, amid which the first buildings were erected, has disappeared. In its stead are large cultivated fields, the extensive gardens, the wide lawns, and many young groves. To the single college hall and the single boarding hall of the first days have been added Wells hall, Williams hall, Abbot hall, the chemical laboratory, the horticultural laboratory, the botanical laboratory, the veterinary laboratory, the agricultural laboratory, the library and museum building. Besides these there are 13 residences for professors and employés, and a large apartment building, in which many of the younger professors make their homes. The propagating houses are of the best make. The greenhouse is of good size and is stocked with fine plants. The flower garden and the botanical garden lend in summer a glow of color to the beauty of the grounds. There is a whole village of cribs, and sheds, and silos, and barns. An artesian well was bored some years ago, and from it the steam pumps constantly send forth a stream of pure water to every building on the grounds.

The 240,000 acres of land given to Michigan in 1862 by Congress were to support a school of agriculture and the mechanic arts. In accepting this grant and giving it to its agricultural college, Michigan was in honor bound to establish at the college a mechanical department. This it did at the time that Hon. Edwin Willits became president, and during his administration the department was organized and pushed to the front. For it was erected a large building, with wood-shop, supplied with benches, tools, and lathes; with an iron shop, with all the machinery for working in iron, and an engine to furnish power for both. The course of instruction in the mechanical department is of the same length as in the agricultural and is equivalent to it. Its aim is to give boys the beginning of such training as will make them first-class mechanics. From 8 to 12 hours a week are given to practical work in the shops. This amount of time under the direction of trained instructors develops a surprising skill in the young workman.

In accepting the Congressional land grant Michigan pledged itself also to teach military tactics and science in the school supported by it. In carrying out this pledge it has provided for a regular drill of one hour three times a week and for class instruction in military science. The State has built a large and excellent drill hall for use in inclement weather. The students are organized into a cadet corps. A lieutenant from the U. S. Army is detailed by the Secretary of War to give instruction in this department, which he does in a most efficient and acceptable manner.

The extensive plant of the college, including land, buildings, library, museum, apparatus, stock, implements, etc., has been generously given by the State of Michigan in many different appropriations from year to year. The plant has cost \$450,000. In addition to this it was necessary for the State, until 1885, to make annual appropriations for the

current expenses of the college. For this purpose it gave, between 1857 and 1885, \$362,000.

By the terms of the Morrill grant, as mentioned above, Michigan received 240,000 acres of land, which it gave to the agricultural college. This land was located in Michigan, and is held and managed by the State, the fund received for its sale being also held by the State, and interest on it paid to the college. There has been no unwise haste in selling the lands. About one-half of them are now sold, and the fund received yielded in 1889 about \$32,000 income to the college. When the other half of the land is sold the annual income will be largely increased.

The State board of education, into whose hands the management of the college was first given, desired to be relieved of this charge, and in 1862 the legislature created the State Board of Agriculture and put the school under its control. The members of this board have taken much personal interest in the growth of the school, and have usually worked in harmony with each other and with the faculty. It has never lacked some men of wide views in education and agriculture, who have given to its work a comprehensive scope. Receiving no compensation for their services they have yet given to the supervision of the college much valuable time, and not infrequently have received therefor, from persons who knew nothing of the situation of affairs and who had not sufficient interest in the college ever to set foot upon its premises, most unjust and bitter criticism. But in the constantly growing strength, usefulness, and prosperity of the school the board has an honorable reward.

Since the college was first opened it has not lacked for students. It has been obliged to depend entirely on dormitories for the accommodation of its students, and its dormitories have always been very limited in capacity. In the first years the boys were crowded, four in a small room. Later appropriations enabled other dormitories to be built. But as rooms increased students increased in number, and sometimes in these later years rooms have been crowded scarcely less than in the beginning. That only a small number of students could be taken has not been in all respects a misfortune. It has given the college a chance to develop its course of instruction and of labor without the burden of providing immediately for too large a crowd. Now it is so thoroughly established that it can care for greater numbers as soon as the State provides dormitories for their accommodation.

In glancing over the work done to establish the college and in studying its experience for these 32 years, and in looking somewhat at the condition of other agricultural schools, there are some truths that thrust themselves boldly into view:

(1) An agricultural and mechanical school should be under the control of a special board with which it is the chief school or the only school.

(2) It should not be a department of what is called a university, but should be separate from all other institutions.

(3) A labor system demanding not less than 2 hours' labor a day from every student not physically disabled should be rigidly enforced.

(4) This requires that the college should be on a large domain, giving ample space for shops, farms, gardens, orchards, groves, and lawns.

(5) The course of instruction should train students in natural science, mathematics, and English literature, and in the practical applications of science to agriculture and mechanics, and in those sciences not usually called "natural," though eminently natural in the true meaning of the word, that deal with life, mind, thought, morals, industry, and society.

(6) A school so controlled, so situated, with such a system of labor and such a course of instruction, led by professors who are well trained and who have faith in their cause, can do a work of increasing and immeasurable importance in developing in its students a close sympathy between labor of the hands and of the head, in giving them strong and healthful bodies, minds freed from fogs of error and well stored with knowledge of the world in which they must live and work, and a moral character grounded on the truth and righteousness that inhere in the Power, not ourselves, that everywhere pulsates in matter and in man.

AGRICULTURAL COLLEGE, MICHIGAN, *December 4, 1889.*

MICHIGAN MINING SCHOOL, HOUGHTON, MICHIGAN.

From sketch furnished by Director WADSWORTH, December, 1889.

ORGANIZATION.

The Michigan Mining School, located at Houghton, in the Upper Peninsula of Michigan, was established by an act of the legislature of Michigan, approved May 1, 1885.

The passage of the act for the creation of the Mining School was largely due to Hon. Jay A. Hubbell; and he seems first to have entertained the idea of establishing the school. The act of May 1, 1885, was introduced and advocated by him. It appropriated \$25,000 for the equipment and maintenance of the school until the next session of the legislature.

The act establishing the Michigan Mining School authorized the governor of the State to appoint six trustees, who, among other things—including the management and control of the school and its finances—were authorized to locate the same at some point in the Upper Peninsula of Michigan, and the then governor, Hon. R. A. Alger, appointed Thomas L. Chadbourne, of Houghton; J. N. Wright, of Calumet; John Senter, of Eagle River; Alfred Kidder, of Marquette; C. H. Cady, of Iron Mountain; and Hon. John H. Foster, of Meridian, as such trustees under the act. These gentlemen were all heartily in accord with Mr. Hubbell as to the necessity for such an institution of learning in their midst. Most of them were practical mining men, and all entered with zeal and alacrity upon the discharge of their official duties, with a determination to make the school a success.

The first meeting of the trustees was convened at Houghton, Mich., on the 15th day of July, 1885, and by a resolution then passed by a unanimous vote the Michigan Mining School was located at Houghton, in the county of Houghton and State of Michigan.

If the school was to be a permanent institution it needed a suitable building for its habitation and suitable apparatus and equipment to enable it to furnish facilities for the proper instruction of its students. During this session of the legislature Mr. Hubbell secured the passage of an act appropriating \$75,000 for the purpose of erecting a suitable building for the Michigan Mining School on a site to be donated for that

purpose, and also a further appropriation of \$17,500 for its maintenance until the next session of the legislature.

Under the direction of the trustees a commodious and handsome structure for the school, capable of accommodating 100 students, was erected on land given by Mr. Hubbell.

In 1887, owing to the resignation of Messrs. Cady and Foster, of the board of control, Messrs. Chas. E. Wright, of Marquette, and Graham Pope, of Houghton, were appointed upon the board. Mr. Wright was State geologist and a practical mining engineer, as well as conversant with the technical courses and methods employed in the mining schools of Germany. His death in the spring of 1888 was a very serious loss to the Michigan Mining School. Mr. J. M. Longyear, of Marquette, was appointed as his successor.

Besides the legislative appropriation the school has received a fund of \$1,000 from Mrs. C. A. Wright to establish a scholarship in commemoration of her late husband, Mr. Chas. E. Wright, of the board of control.

In 1889 the legislature of Michigan appropriated \$60,000 for the equipment of the new building and \$44,000 for its running expenses.

BOARD OF CONTROL.

James North Wright, Calumet, president; Thomas Lincoln Chadbourne, Houghton, secretary; Graham Pope, Houghton; John Monroe Longyear, Marquette; Alfred Kidder, Marquette; John Senter, Eagle River; Allen Forsyth Rees, Houghton, treasurer.

FACULTY.

The school was organized and commenced September 15, 1886. Albert Williams, jr., was elected principal of the school and instructor in geology and mining, with John C. Hoffman as instructor in mathematics and drawing, and Robert L. Packard, A. M., as instructor in chemistry.

Mr. Williams was a graduate of Princeton, and had been for a number of years connected with the U. S. Geological Survey in charge of the department of mineral resources of the United States.

At the close of the school year Mr. Williams and Mr. Hoffman both resigned, and the following changes were made in the faculty. M. E. Wadsworth was elected director and professor of petrography, geology, and mineralogy, and R. M. Edwards as professor of mining and engineering. In 1888 the faculty was increased by the addition of Mr. Fred. F. Sharpless as instructor in chemistry and metallurgy, and Mr. R. C. Pryor as instructor in mathematics. In 1889 the faculty was as follows:

Marshman Edward Wadsworth, A. M., PH. D., director and professor of mineralogy, petrography, and geology. Robert Lawrence Packard, A. M., professor of chemistry and assaying. Richard Mason Edwards, E. M., professor of mining and engineering. Fred Fraley Sharpless, S. B., instructor in chemistry and metallurgy. Richard G. G. Moldenke,

E. M., PH. D., professor of mechanical engineering and drawing. George H. Perkins, A. B., instructor of mathematics and physics.

Mr. Wadsworth is a graduate of Bowdoin College and a post graduate of Harvard University. He had experience as a teacher for many years in the public schools of the country, was an instructor in Harvard University, and professor in Colby University. He had published many scientific papers relating to geology, etc., prior to his election to the directorship.

STUDENTS.

During the first year the school had 23 pupils, arranged into two divisions. During the second year a systematic course for two years was arranged and 29 pupils instructed.

The third year 40 pupils were enrolled, but at the end of the third year the requirements for admission were raised and the course of study changed to one for three years; therefore the number of students fell to 32 during the early part of the fourth year. [In 1890-'91, 61 pupils were in attendance.—A. C. M.]

REQUIREMENTS FOR ADMISSION.

Candidates for the regular course will be examined in arithmetic, metric system, bookkeeping, algebra through quadratic equations (Olney's complete, or its equivalent), geometry (all contained in Davies' Legendre, revised by Van Amringe, or its equivalent, pp. 9-291), elements of physics (Gage's or its equivalent), elements of descriptive astronomy (Newcomb's Popular Astronomy, school edition, pp. 74-88, 167-429, 483-531).

DEPARTMENTS OF INSTRUCTION.

Mathematics (Mr. Perkins).—During the first year higher algebra, and plane and spherical trigonometry are studied. In studying trigonometry, especial attention is paid to the solution of many problems, such as are continually occurring in a land surveyor's practice, including the solution of the solar triangle.

During the first term of the second year analytical geometry is studied, its use in certain kinds of land and mine surveying being pointed out.

During the second term of the second year the differential and integral calculus is studied to such an extent that the student can intelligently apply the methods of calculus to the solution of practical problems in mechanics and strength of materials.

Physics (Mr. Perkins).—In physics the course will embrace the general properties of matter, the laws of solids, liquids, and gases, in their application both to physical and chemical problems.

A careful study of the principles of sound, heat, light, magnetism, and electricity will be made with especial reference to their applications in the art of mining.

To this end experimental laboratory work will be required of every regular student.

The apparatus of the physical laboratory is designed for two purposes—exposition of those phenomena which illustrate the fundamental principles underlying the whole subject of physics and practice by the students themselves in physical measurements.

Where it is possible the students take an active part in the experiments, and some thirty experiments are laid down which each student is required to perform. A majority of these are in electricity, and precede the course in electrical engineering.

Drawing (Professor Moldenke).—The course embraces freehand and instrumental drawing, descriptive geometry, shades, shadows, and perspective, stonecutting, topographical, geological, and isometric drawing.

Part of the first term is devoted to freehand drawing of objects from photograph, then from nature, as well as sketches from nature of various engineering, architectural, and geological features likely to be of importance to the student in his future calling.

The rest of the year is taken up in mechanical drawing of the projection of bodies.

In the second year there are taken up shades, shadows, and perspective, isometric, topographical, and geological drawing, also the simpler elements of architectural drawing. The second term includes the subject of graphical statics, with various applications to structures of general engineering interest, as well as those specifically for the mining engineer.

The third year continues the subject, and takes up very fully machine designing. The last subject, taken in connection with the fully equipped machine shop, gives the student the opportunity of carrying out his plans prepared in the drawing room, which teaches him what is really needed in this direction in the actual run of work of a professional mining engineer and superintendent.

Mechanical engineering (Professor Moldenke).—In the second year the students are instructed in the principles of mechanism. The third term of the year is devoted almost entirely to machine-shop practice. Here the students are taught all the necessary operations connected with forging, pattern and tool making, turning, planing, milling, etc., and building lathes, engines, dynamos, and motors of various kinds, also making electrical experiments requiring a knowledge of machine-shop work, and otherwise familiarizing themselves with the management of boilers, engines, and machines in general.

In the third year the theory and practice of boilers and engines are fully discussed, taking 2 hours per week throughout the year for this subject alone.

Then, in view of the great importance of knowing the characteristics of the standard materials used at the present day, a full course on the "properties of materials," especially iron and steel, has been added.

This takes up iron, steel, brass, and other alloys where the metallurgy leaves them as crude products, and carries them through all the various processes of manufacture and finally delivers them to the engineer as finished products.

Electrical engineering (Professor Moldenke).—In view of the increasing importance of this interesting subject in its various power applications, a course in electrical engineering, with special reference to mining engineering, has been established. In the department of physics the student is taught all the elementary principles, he is required to make experimental tests, and is given a complete course in electrical measurements. He then comes into the machine shop and carries out such designs and plans of electrical experimental work as he may have worked up in the drawing room, and tests it in the various stages of building, making the necessary changes and improvements which electrical testing, properly interpreted, helps him to do. He also builds dynamos and motors of various patterns. He is taught to handle arc, incandescent, and alternating dynamos, storage batteries, also motors, and especially long-distance power-transmission and transformers. In short, he is given the opportunity to familiarize himself with the leading features of electricity up to date.

The machine shop has a complete equipment of dynamos, motors, electrical testing apparatus, and electrical supplies of all kinds; the plant also answering for the complete lighting of all the buildings, thus giving the student an opportunity of practically handling the wiring and electric illumination of large establishments.

Surveying (Professor Edwards).—This course is planned to furnish students with all the theoretical knowledge, as well as all the practice, necessary to enable them to take intelligent charge of an instrument in any survey that will ordinarily fall in the duties of a mining engineer. The class is divided into squads of three or four men, and each squad completes the required list of surveys, about fifteen in number, making necessary calculations, plats, etc. The school has the necessary equipment for surveying purposes.

Hydraulics (Professor Edwards).—Recitations from Merriman's Treatise on Hydraulics, with the solution of a great variety of problems of a more or less practical nature.

Mining (Professor Edwards).—The course in mining consists of a series of lectures on practical mining and mining machinery, the list of subjects being the same as usually covered in technical schools. In addition to the lectures, a prominent feature of the course is a system of weekly or semi-monthly excursions to mines in the vicinity of the school, to enable the students to see for themselves the systems and machinery described. For example, the subject being discussed by lecture is shaft-sinking; before another subject is taken up, or very soon after, the students are taken to some mine where shaft-sinking is in progress. There are numbers of excellent examples within ten

miles of the school, where the students can watch the progress for an entire shift and afterwards write a description of what they have seen, to be examined by the professor in charge. In this way the lectures are admirably illustrated.

Chemical and assay department (Professor Packard and Mr. Sharpless).—The chemical laboratories, chemical lecture, balance, supply, spectroscope, and professors' rooms occupy the third or upper story of the building.

The assay laboratory, with its balance and desk rooms, is in the basement. The chemical laboratories are provided with large hoods or fume chambers which connect by special flues with the general ventilating shaft, while the laboratory rooms communicate with the general system of ventilation in the building.

The assay laboratory contains ten large crucible furnaces and eighteen muffle furnaces of the Brown pattern, and other equipment and apparatus for practical work.

The instruction is entirely in inorganic chemistry.

Ore dressing (Mr. Sharpless).—During the fall and winter terms, the instruction in ore dressing is given by text-book and lectures, illustrated with drawings from working models, and visits are made to many of the dressing works of this county, all of which are open to the inspection of students. The school has contracted for a well-appointed mining laboratory, to be in operation in the spring of 1890.

During the spring the student spends 5 weeks in this laboratory working upon free-milling and refractory ore.

Metallurgy (Mr. Sharpless).—The course in metallurgy is given by text-book and illustrated lectures. During the year visits are made to the various metallurgical works of this vicinity, and reports made of the methods employed. It is hoped that a metallurgical laboratory will be opened soon, which will work in connection with the mining laboratory.

It will be the aim of the metallurgical and mining laboratories to determine the best methods of treating given ores and give the working results; results which in many cases are only approximate in the chemical laboratory.

Crystallography (the director).—The instruction in this subject will be given by means of lectures and laboratory practice in determining the forms and planes of about 1,000 glass and wooden crystal models, with recitations upon the same. For undergraduate work the instruction is confined to giving the student the practical knowledge of crystal forms which he needs in his determinative mineralogy.

Blowpipe analysis (the director).—Blowpipe analysis is taught in connection with determinative mineralogy so far as needed for mineral determination, while further instruction is given in the course in qualitative analysis.

Mineralogy (the director).—For determinative mineralogy there is

provided a typical set of all the important minerals, special attention being paid to those of economic value, as well as to those occurring as gangue or rock-forming minerals. Further collections are arranged showing the physical character of minerals, their pseudomorphs, etc.

Petrography (the director).—This subject is treated under two heads: Lithology, or the determination of rocks, and petrology, or the mode of occurrence of rocks.

Geology (the director).—In general geology the instruction will be given with special reference to the future work of the student, and will relate chiefly to dynamical and structural geology. For advanced students instruction will be provided in higher and original work.

Economic geology (the director).—The instruction in this subject will be given by means of lectures, recitations, and practical observations in field and in mines.

Special attention is given to the instruction in mineralogy, petrography, and geology, in order that the student may in after years understand the nature of the deposits upon which he may be at work; since disastrous mistakes probably occur in the practice of a mining engineer oftener through ignorance of the petrographical and geological relations of the ore deposits in question than from a lack of engineering and metallurgical skill.

The location of the school affords especial advantage for the study of petrography and general and economic geology. It is situated in the midst of the vast and ancient lava flows and conglomerates generally known as the Copper Bearing or Keweenaw Series, and near the Eastern or Potsdam Sandstone. In the immediate vicinity are to be solved some of the most important and fundamental problems of petrographical and geological science—*e. g.*, the metamorphism or alteration of rocks, the true age of the so-called Keweenaw Series, the relation of the so-called Huronian and Laurentian Series, the origin of the iron ores, etc.; while almost every problem of geology finds its illustration in some portion of the Upper Peninsula.

The instruction in the various departments under the charge of the director is intended to be given so that persons who wish to obtain a knowledge of the subjects as a matter of general information, or to prepare themselves for teachers or investigators, can attend with advantage.

The last four weeks of the third year are spent in the field and in mines in the practical study of various questions in general and economic geology, mineralogy, and petrography.

The State Geological Survey of Michigan has been placed under the charge of the director of the mining school, and its office and collections are placed in the new building.

Thesis.—Every student completing the three years' course is required to present to the faculty a satisfactory thesis, embodying the results of some investigation upon some subjects related to the studies of that course.

AIMS OF THE SCHOOL.

The mining school was organized to train men to aid in the development of the mines of the country and a knowledge of its geology. Its course has been arranged on the same plan as are those of advanced schools of law, medicine, and theology, to give the necessary special education required to fit men for their chosen profession. According to this view it has been assumed that the general education of the pupils has been completed before entering the school, and the course is arranged expressly to meet the wants of those who have completed their literary education. At the same time special attention is paid to training the philosophical powers in the departments of mineralogy and geology.

EQUIPMENT.

Provision has been made for ample equipment of the school in all its departments, except a metallurgical laboratory. A good working library is being purchased and arranged, while the reading room is stocked with the leading home and foreign technical and scientific periodicals. A stamp mill and ore-dressing department, complete assay laboratory, machine shop, geological laboratories, chemical laboratories, containing desks with modern improvements, etc., go to make a fully equipped building for its purposes.

HILLSDALE COLLEGE, HILLSDALE, MICHIGAN.

Sketch prepared, December, 1889, by Prof. S. W. NORTON, *Acting Alumni Professor Rhetoric, Belles-lettres and German, in Hillsdale College.*

Hillsdale, the site of Hillsdale College, is a city of 4,000 inhabitants, in southern Michigan, 80 miles southwest of Detroit and 180 east of Chicago. It is situated on the main line of the Lake Shore and Michigan Southern Railroad, and is the headquarters for the Ypsilanti, Lansing, and Fort Wayne and Jackson divisions of the same road. The college buildings are located on College Hill, and command a view of the city and surrounding country.¹

The college had its beginnings in the Michigan Free Baptist yearly meeting, held at Franklin, Lenawee County, in June, 1844, and has since been under the auspices of that denomination. The history of its establishment and growth will indicate its educational influence within the denomination, and a review of its courses of study as they have been developed, together with the attitude which the college itself and its alumni have assumed in the world of letters, will show its influence in wider educational circles.

The Free Baptist denomination was founded by Benjamin Randall, who organized the first church therein on the 30th day of June, 1780, at New Durham, N. H. Freedom of the will, immersion as the only form of baptism, and open communion were the essential parts of its creed. Its ministry were composed of earnest, zealous, self-sacrificing, but uneducated men. Indeed, a strong prejudice against an educated ministry seemed to exist throughout the denomination. Owing to this reason no institution of learning was established during those days. However, on the 15th day of January, 1840, about 60 years after the founding of the denomination, an educational society was organized at Acton, Me., "to provide means for the intellectual and moral improvement of young ministers." The first Free Baptist church in the Territory of Michigan was organized near Ypsilanti, Washtenaw County, March 14, 1831. During the years immediately succeeding other churches were organized, notably in Oakland, Jackson, and Calhoun Counties.

¹ The writer of this sketch is especially indebted to a paper written by Hon. J. C. Patterson, of Marshall, and read by him before the Pioneer Society of the State.

In these churches the movement began which led to the founding of Michigan Central College, afterwards Hillsdale College.

As early as 1835 Elders Samuel Whitcomb, Elijah Cook, and Henry S. Limbocker, the founders of the denomination within the Territory, took a stand in favor of an educated ministry, and began to agitate the need of an educational institution. Their efforts were ably seconded by Hon. Daniel Dunakin, Eli T. Chase, of Eckford; Thomas Dunton and Herman Cowles, of Battle Creek; Joseph Blaisdell, of Assyria; Roosevelt Davis, of Blackman; Jonathan Videto, Joseph Bailey, and William Smith, of Spring Arbor.

At the Michigan yearly meeting mentioned above a resolution, substantially as follows, was passed:

Resolved, That a denominational school be established within the Territorial limits of the yearly meeting; that a committee of three be appointed to draft a constitution and by-laws; and that a convention be called at the village of Jackson to consider and adopt such constitution and by-laws and to take such other measures as shall be necessary to establish the school.

Lewis J. Thompson, of Oakland County; Henry S. Limbocker and Roosevelt Davis, of Jackson County, constituted the committee. The convention, provided for in the resolution convened at the village of Jackson in July or August, 1844. The constitution and by-laws reported by the committee were adopted. Cyrus Coltrin, of Oberlin, Ohio, was authorized to solicit subscriptions and to collect means to establish the school. The convention determined to locate the institution at the place where the most liberal inducements were offered, having due regard for the healthfulness of the locality. Spring Arbor, having raised the largest subscription, secured the location. The churches throughout the State were vigorously canvassed and subscriptions were taken during the summer and fall of 1844. These subscriptions were of small amounts; the largest being that of Elder Chauncey Reynolds, who agreed to convey 80 acres of land to the institution as soon as it could be sold for \$600.

The board of trustees met at Spring Arbor in October, 1844. The name of the institution was changed from Spring Arbor Seminary to Michigan Central College, and a committee was appointed to secure a charter from the legislature. Daniel M. Graham was elected president, and the 4th day of December following was appointed on which to open the institution. Accordingly, on the day designated Daniel M. Graham, president and sole member of the faculty, opened college in a small wooden story-and-a-half building, which had formerly been occupied as a store. Five students were enrolled. Other students came in during the term.

Two college buildings were commenced in 1845. These buildings were of wood, two stories in height, and plain in architecture. The plan was to connect them as wings to a main building to be erected

subsequently. They were alike, each being about 35 feet wide by 60 feet long. The first floors were used as recitation rooms; the second for dormitories. These buildings were occupied in the fall of 1845.

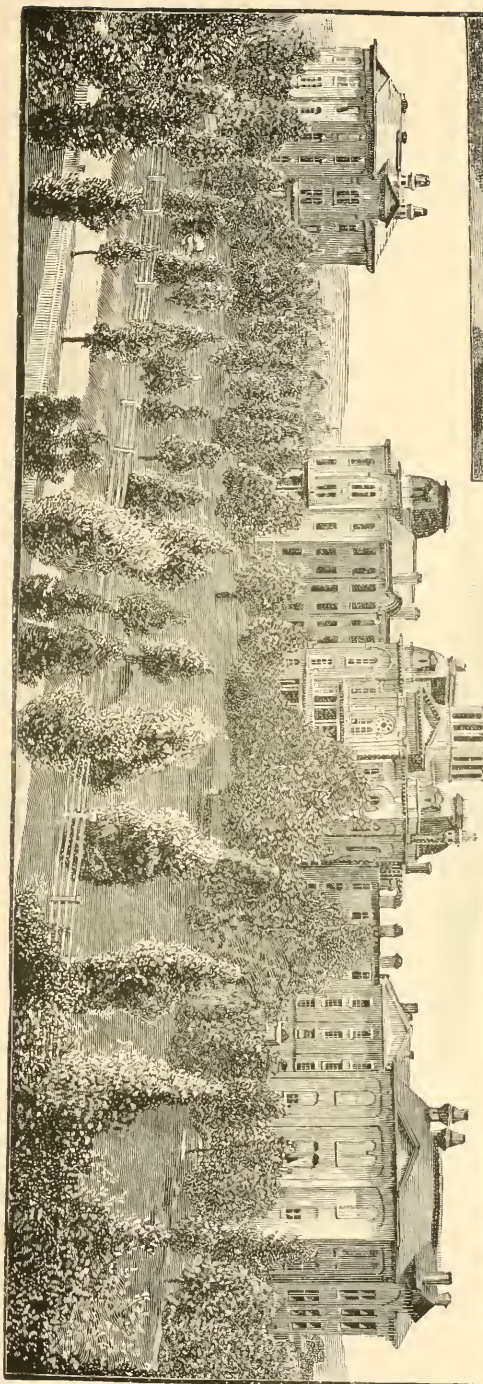
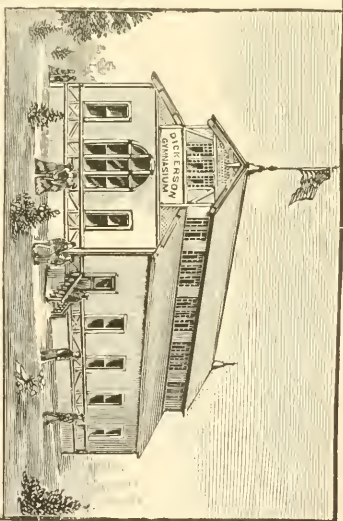
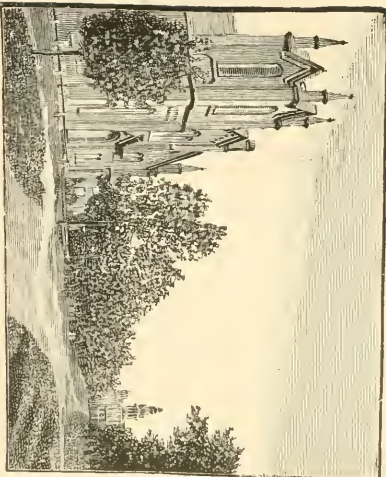
The trustees were unable to secure a charter for the granting of degrees from the legislature of 1845. It had been the settled policy of the State Government to give the State University the exclusive power of conferring collegiate degrees, and no college charter had as yet been granted. An act was passed, however, which was approved on the 19th of March, 1845, enacting—

That Elijah Cook, Drusus Hodges, Jonathan L. Videto, Justus H. Cole, Joseph C. Bailey, Henry S. Limbocker, Lemuel W. Douglass, Lewis J. Thompson, and Enos W. Packard, and their successors in office, shall be, and they are hereby, constituted and deemed a body corporate, by the name and title of The Michigan Central College at Spring Arbor, and shall be trustees of said college, with the power to hold property to the amount of \$30,000, to sue and be sued, to have a seal, with power to appoint and remove teachers, and to admit and dismiss students.

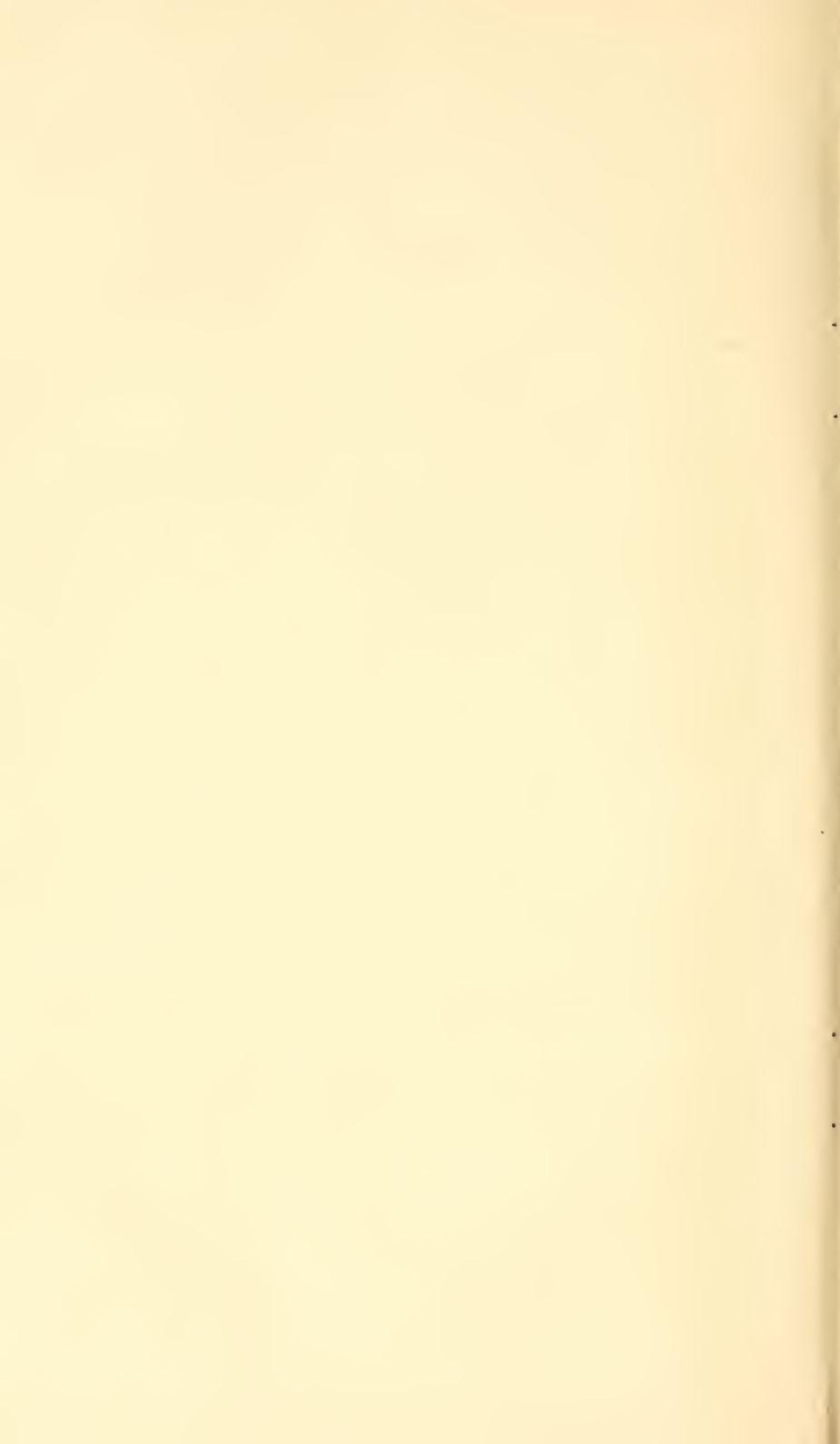
An act of the legislature was approved March 20, 1850, amending the above act, by granting the power "to confer such degrees and grant such diplomas as are usually conferred and granted by other colleges, providing the course of study pursued in said college shall be in all respects as comprehensive as that required, or shall be hereafter required, in the University of Michigan." This act also granted authority to hold property to the amount of \$100,000. In accordance with the privilege granted by the act, the college conferred its first degree in 1851 upon Elizabeth D. Camp, who was graduated from the scientific course. Classes were graduated also in the years 1852 and 1853. Livonia E. Benedict, afterward wife of Rev. Wm. H. Perrine, D. D., of Albion, received the degree of A. B. in 1852, and was the first lady classical graduate from a Michigan college.

In the mean time the institution had been growing. An able faculty of active, progressive men had been secured whose presence and efforts brought increased numbers of students. Greater and better facilities were needed. To meet these demands the trustees appealed to the local community for a building fund, and to the denomination at large for an endowment fund. To this appeal the community made no response, and it soon became evident that to continue the operation of the institution at Spring Arbor would effectually check its progress. At the meeting of the trustees in January, 1853, the expediency of a removal was discussed, resulting in the appointment of a committee to confer with the citizens of different towns and ascertain what inducements would be offered the college by way of buildings and grounds. Of the places visited by this committee, Hillsdale offered the largest inducements and secured the site of what is now Hillsdale College.

Michigan Central College opened December 4, 1844, and closed July 6, 1853. During this time it graduated 13 students, 9 from the scientific and 4 from the classical course. It received under its instruction about



HILLSDALE COLLEGE, HILLSDALE, MICHIGAN.



700 students. Its buildings consisted of the two already mentioned, and a smaller one subsequently constructed as a dormitory. It possessed about \$500 worth of apparatus, and a library of about 2,000 volumes, which had been collected by individual contributions. About one-half of the latter were given by Amos Lawrence, of Boston, and Edward Everett, of Harvard College. At the time of its removal the faculty consisted of Rev. Edmund B. Fairfield, who had been elected to succeed President Graham in 1848, Profs. Ransom Dunn, Henry E. Whipple, and Charles H. Churchill, and Miss Mary E. Williams. Much of the teaching in the lower branches was done by advanced students.

By the conditions under which the college was located at Hillsdale, the citizens agreed to raise \$15,000 within the township, and the college \$15,000 more in the remaining part of the county, the entire sum to be devoted to building purposes. Within 3 months, \$37,500 were subscribed within the county. The trustees also determined to raise an endowment fund of \$100,000, and \$10,000 more for manual labor purposes. During the next year, while the college buildings were being erected, the faculty canvassed the denomination and succeeded in securing pledges to the above-named amount. In the mean time, negotiations were on foot which resulted in the sale of Geauga Seminary, located at Chester Cross Roads, Ohio, and the transfer of its effects to Hillsdale College.

The above steps were taken before the closing of Michigan Central College. When the time for removal came many difficulties arose. The corporation under its charter had no authority to receive the subscription to build a college at Hillsdale and no authority to remove to Hillsdale. By the State constitution of 1850 the granting of special charters to educational institutions was prohibited, and no general statute existed whereby a college could be incorporated. Moreover, it had been contrary to the fixed policy of the State to grant college charters, that of Michigan Central College being the only one in the State. It was decided to use all honorable means to procure the passage of a general college law. Dr. Alonzo Cressy was elected to the senate from Hillsdale and Daniel Dunakin, of Calhoun County, to the house of representatives, in that interest. This was in 1854, the year in which the Republicans came into power in the State. The friends of the institution and the denomination had claims upon the new party which they strongly urged. A general college law was agitated throughout the State. Other denominational schools supported the measure, and as a result our present college law, under which the numerous denominational colleges of the State have been incorporated, was approved on the 19th day of February, 1855. This law was introduced and passed to meet the peculiar wants of Hillsdale College. Its history is a chapter in the history of the college. The citizens of Spring Arbor bitterly opposed the removal to Hillsdale. Suits were brought against

the trustees, both in their corporate capacity and as individuals. During the pendency of these suits the efforts at Hillsdale seemed almost futile. Parties refused to pay their pledges; work upon the buildings progressed but slowly, and finally ceased altogether. The enterprise must have failed utterly but for the determination and energy of its leading spirits and the continued support of many of Hillsdale's leading citizens. The suits were in general decided favorably to the college, and with the passage of the general college law mentioned above prospects became brighter.

Ground was broken for the new buildings on the 13th day of June, 1853, and on the 4th day of July following the corner stone was laid. The plans provided for one large building, or rather a group of five connected buildings, 262 feet long by 60 feet deep. The edifice was built of brick, four stories high above the basement, and was completed in the fall of 1855. The central portion contained the chapel, the treasurer's office, two society halls, and five recitation rooms, and was surmounted by a symmetrical dome. The basement of the eastern portion was used for a dining hall; on the first floor were the parlors, steward's room, and the halls of the ladies' literary societies; the remainder was used for ladies' dormitories. The western portion contained the museum, laboratory, recitation rooms, and gentlemen's dormitories. The building thus constructed was plain in architecture, and standing upon the highest grounds in southern Michigan, presented an imposing appearance.

The college opened in its new home on the 7th day of November, 1855. The following-named persons constituted the faculty: Rev. Edmund B. Fairfield, A. M., president; Rev. Ransom Dunn, professor of mental and moral philosophy and natural theology; Rev. Charles H. Churchill, A. M., professor of Latin and French languages and music; Rev. Henry E. Whipple, A. M., professor of English literature and history; Spencer J. Fowler, A. M., professor of mathematics and natural philosophy; James Dascombe, M. D., professor of chemistry and physiology; George S. Bradley, tutor; Miss Delia R. Whipple, principal of female department.

About 100 students were present at the time school began, and 162 were in attendance during the first quarter. The buildings were not yet completed and the rooms were not furnished. The hardy students substituted nail kegs for chairs, boxes for tables, and bunks of straw for beds, until better conveniences could be provided. Classes were organized in the different courses of study. Four hundred and ninety-three students attended during the first year of school; 580, the second; 669, the third, and 757, the fourth year. The course of study in the college departments was substantially the same as that required at the State University. The instruction was thorough. A spirit of life and enthusiasm pervaded the whole institution. The members of the faculty were all able, energetic, eloquent, and progressive men, thoroughly identified with the work and bound to make it a success.

In 1860 the first class pursuing the full course at Hillsdale, 14 in number, was graduated. The standard of scholarship was steadily raised; a good working library was collected; a valuable herbarium and museum of natural history was established; a large collection of valuable geological specimens was gathered, and chemical and philosophical apparatus was procured.

On the 6th of March, 1874, the central building and west hall were burned to the ground; the museum, the collection of natural history, and a large amount of furniture and other property were destroyed. The loss was heavy, but no time was wasted in lamentation. Before night arrangements were made to open school the following day. Churches and private rooms were converted into recitation halls. The trustees immediately determined to rebuild, funds were collected, plans procured, and on the 18th day of August, 1874, the corner stone of the new building was laid. A different plan from the old building was adopted. A group of 5 buildings was decided upon, consisting of Knowlton hall, Griffin hall, College hall, Fine Arts hall, and East hall. The first four named have been completed; East hall is the remnant of the old building.

The new buildings contain much more room than the old. Knowlton hall contains the museum, chemical laboratory, two recitation rooms, and three society halls; Griffin hall, the commercial department and gentlemen's dormitories; College hall, the chapel, library rooms, treasurer's office, Y. M. C. A. hall, and four recitation rooms; East hall, the parlors, dining hall, biological laboratory, and ladies' dormitories; Fine Arts hall contains two ladies' society halls, the music and art rooms, physical laboratory, and two recitation rooms.

Besides the preparatory department the college provides for classical, philosophical and scientific, theological and normal courses. It also has music, art, and commercial departments. For entrance into the classical course students are examined in the common English branches; Latin grammar, including prosody; Caesar, four books; Cicero, six orations; Virgil's *Æneid*, six books; Latin prose composition; Greek grammar and lessons; Xenophon's *Anabasis*, three books; Greek prose composition; algebra to Part III, Olney's university; plane geometry; composition and rhetoric; United States history; ancient history; natural philosophy; civil government; elementary zoölogy; elementary botany; and elementary physiology. For entrance to the scientific and philosophical course students are examined in the same as above, with the exception of Greek, and one year of French additional. A literary course, for which the degree B. L. will be granted, is to go into effect the coming year (1890-91); the requirements for admission being the same as in the last-named course.

In the college proper the following branches are taught (the year is divided into three terms, and in the following statement a term's work consists of daily recitations throughout the entire term): Latin, four terms; Greek, five terms; mathematics, including solid geometry, higher

algebra, trigonometry and surveying, general geometry and calculus, higher physics, and astronomy, nine terms; chemistry, two terms; German, six terms; French, three terms; English language and literature, six terms; history, four terms; botany, zoölogy, physiology, geology, mental philosophy, evidences of Christianity, moral philosophy, international law, political economy, qualitative analysis, each one term. Aside from the above, much extra work is required in the laboratories.

The department of physics has much valuable apparatus, which is freely used in illustrating the principles of the science.

Especial attention is given to the study of electricity and of its recent very interesting and valuable practical applications, as seen in the electric light, electro-motor and telephone. The professor in charge has recently completed the raising of a fund of over \$900 with which to add to the equipment.

The museum, while not pretentious in size, is fairly well provided with representative specimens in the mineralogical, paleontological and biological departments. The course in inorganic chemistry requires, aside from the general class work, 10 hours per week for 14 weeks of laboratory work. Organic chemistry follows, in which attention is given to the points of physiological chemistry best adapted to fit the student for the following year's work in biology.

The normal department is under the direction of Miss Harriet A. Deering, PH. B. It aims at a thorough preparation of teachers for their work; first, by careful reviews of the common English branches with methods of teaching the same, and frequent development lessons given by the students; second, by thorough training in those branches which a normal school should qualify its graduates to teach; third, by such a course of natural study as will qualify for the work of organizing, instructing, and governing in our common and graded schools. The course comprises three years of study.

The music and art departments provide courses of five years in length, and are doing excellent work in their respective lines.

One of the chief objects of the founders of the college was the establishment of a theological seminary. The first year the college opened at Hillsdale, Prof. Ransom Dunn, D. D., delivered a course of lectures to the students on Natural Theology and the Evidences of Christianity, and continued to deliver a course each year on the same subject until the spring of 1862. At this time, the Free Baptist printing establishment gave to the institution the sum of \$1,000 to begin the endowment of the Burr Professorship of Biblical Theology, and Dr. Dunn was elected to the professorship. At the commencement of the fall term, the professor began two courses of lectures which were to extend through the year; one on systematic theology, and one on homiletics and pastoral theology; and, as occasion demanded, he gave instruction in church history.

In 1873, the Rev. J. J. Butler, D. D., author of *Butler's Theology*, accepted a call to the chair of Hebrew language and literature, and entered at once upon the work.

The same year Rev. John S. Copp, A. M., having just completed his theological course in Andover, Mass., accepted an invitation to occupy the chair of homiletics and church history. Two courses of study, one including and the other omitting the ancient languages, were drawn up, classes were organized and ten students entered upon the course the first term. At present (1889) there are four professors in this department. The course is similar to that in other theological schools.

Hillsdale College has been a pioneer in the educational reforms of the age. From the first it has given the same advantages to the colored race as to the white. It was the first college in the State, and one of the first in the country, to admit ladies to rights and privileges equal with gentlemen. It was the first in the State to establish a gymnasium for physical culture. It was also the first, and is now the only college in Michigan having a theological department conferring degrees. The work of the college in instilling the true scholarly spirit into its students is well shown by the number of those who after graduation take post-graduate courses in the various professions.

The college has graduated 640 students, of whom 405 were gentlemen and 235 ladies. The buildings and grounds are estimated at \$105,000, and the working endowment fund amounts to \$165,000; aside from this about \$35,000 exists in maturing pledges.

The following-named persons have served in the capacity of president: Rev. Edmund B. Fairfield, D. D., LL. D.; Rev. James Calder, D. D.; Rev. Daniel M. Graham, D. D.; Rev. De Witt C. Durgin, D. D.; Rev. Ransom Dunu, D. D., acting president; and the present incumbent, Hon. George F. Mosher, A. M.

Besides those named above in the theological department, the faculty at present (1889-'90) consists of Hon. G. F. Mosher, A. M., president, professor of international law, mental, moral, and political philosophy; Arthur E. Haynes, PH. M., Fowler professor of mathematics and physics; Kingsbury Bachelder, A. M., professor of Greek language and literature; Frank Smith, PH. M., professor of chemistry, biology, and geology; Clarence Otis Williams,¹ A. M., Waldron professor of the Latin language and literature; Samuel Wilber Norton, acting alumni professor of rhetoric, belles-lettres, and German; Harriet A. Deering, PH. B., principal of the ladies' department and of the normal department; Mrs. Frances Stewart Mosher, A. B., professor of French and history; Melvin Warren Chase, Mus. D. professor of pianoforte and harmony; Alvah Graves, instructor in vocal music; George P. Gardner, professor in painting and drawing; Alexander Campbell Rideout, LL. D., principal of commercial department.²

¹ Deceased.

² The catalogue for 1890-'91 shows 501 students enrolled. Of these 90 are in the academic department. Others are in the theological, normal, music, art, and preparatory departments. Several changes have been made in faculty list since the above article was prepared. William F. Tibbetts has become professor of Latin and Charles H. Gurney professor-elect of rhetoric and belles-lettres.

*Table of studies—Literary course.***Junior Preparatory :**

Fall—Latin grammar, 9, XXI, F.; ancient history, 10, V, C.; U. S. history, 3, XXI, F.
 Winter—Latin lessons, 9, XXI, F.; Roman history, 3, VII, C.; elementary philosophy, 2, XX, F.
 Spring—First Caesar, 9, XXI, F.; composition and rhetoric, 11, XXI, F.; elementary botany, 3, XXI, F.

Middle Preparatory :

Fall—Second Caesar, 9, V, C.; arithmetic, 8, VII, C.; physical geography, 11, XXI, F.; elementary zoölogy, 3, Lab., E.
 Winter—Sallust, 9, V, C.; arithmetic, 8, VII, C.; elementary physiology, 3, Lab., E.
 Spring—First Cicero, 9, V, C.; civil government, 2, XXI, F.; elementary algebra, 10, VII, C.

Senior Preparatory :

Fall—Second Cicero, 11, V, C.; French, 10, XXI, F.; university algebra I, 2, VII, C.
 Winter—First Virgil, 11, V, C.; French, 10, XXI, F.; university algebra II, 2, VII, C.
 Spring—Second Virgil, 11, V, C.; French, 10, XXI, F.; plane geometry, 2, VII, C.

Freshman :

Fall—De Senectute, 3, V, C.; German, 10, XVI, K.; solid geometry, 9, XX, F.
 Winter—Livy, 3, V, C.; German, 10, XVI, K.; university algebra III, 9, XX, F.
 Spring—English Bible, 10, X, C.; German, 11, XVI, K.; trigonometry, 9, XX, F.

Sophomore :

Fall—Chemistry, 11, XV, K.; advanced French, 9, XXI, F.; advanced German, 3, XVI, K.
 Winter—Chemistry, 11, XV, K.; advanced French, 9, XXI, F.; advanced German, 3, XVI, K.
 Spring—Botany, 9, Lab., E.; advanced French, 1, V, C.; advanced German, 3, XVI, K.

Junior :

Fall—Zoölogy, 9, Lab., E.; mechanics, 3, XX, F.; history France, 2, XXI, F.; Anglo Saxon, 3-5, 8, XVI, K.; deductive logic, 2-5, 8, XVI, K.
 Winter—Physiology, 9, Lab., E.; physics, 3, XX, F.; history Germany, 2, V, C.; translating English, 3-5, 8, XVI, K.; inductive logic and rhetoric, 2-5, 8, XVI, K.
 Spring—Geology, 11, XV, K.; astronomy, 3, XX, F.; history England, 2, V, C.; Chaucer, 3-5, 8, XVI, K.; rhetoric, 2-5, 8, XVI, K.

Senior :

Fall—History English literature, 3-5, English masters, 2-5, 9, XVI, K.; mental philosophy, 10, IX, C.; history of civilization, 11, IX, C.
 Winter—History English literature, 3-5, English masters, 2-5, 9, XVI, K.; evidences, 10, IX, C.; international law, 11, IX, C.
 Spring—History English literature, 3-5, English masters, 2-5, 9, XVI, K.; moral philosophy, 10, IX, C.; political economy, 11, IX, C.

NOTE.—Fractional marks indicate number of hours of recitation per week. Those studies marked 3-5, recite Tuesdays, Thursdays, and Saturdays; those marked 2-5, recite Wednesdays and Fridays. One year extra of English may be taken as optional study in the classical and philosophical and scientific courses.

KALAMAZOO COLLEGE, KALAMAZOO, MICH.

Sketch prepared in December, 1889, by Rev. SAMUEL HASKELL, D. D., *one of board of trustees of Kalamazoo College.*

This institution is the denominational one of the Baptists of Michigan. Kalamazoo, its seat, is a rapidly growing city of about 20,000 inhabitants, midway between Detroit and Chicago, on the Michigan Central Railroad. The natural beauty of the place has received rare adornment from the refined taste and wealth of the citizens. The college site is an elevated, undulating grove of some 20 acres, centrally situated inside of the west line of the corporation and commanding a fine prospect of the city and the valley of the Kalamazoo River.

The college has three commodious and substantial brick buildings, one of which in addition to its public rooms affords dormitory privileges for male students, and another is a boarding home for girls under the superintendence of the lady principal. To the table of the latter students of the other sex are also received.

The departments of the institution are both preparatory and collegiate, open in all their courses alike to students of either sex.

The history of this educational interest dates from the coming of Rev. Thomas W. Merrill into the Territory of Michigan in 1829. On the 23d of November in that year he commenced in Ann Arbor a preparatory school, both in English and the ancient languages, hoping as he wrote, "that God would open the way for the enlargement of his effort until it should become a literary and theological institution, under the influence of the Baptists of Michigan," the Baptists of Michigan being then, of course, chiefly objects of perception to faith.

Mr. Merrill was a native of Maine, just graduated from the college at Waterville and the Newton Theological Institution. His school at Ann Arbor, being as is supposed the only one of the kind in the Territory, was patronized from Detroit and the other early settlements, and enjoyed an interesting prosperity.

In July, 1830, Mr. Merrill prepared and circulated a petition asking the Territorial legislature to change his school by charter into such an institution as he had conceived, under the name of the Michigan and Huron Institute, securing its control to the Baptists by prescribing

that three-fifths of its trustees should be of that faith. The object of the petition was favorably considered by the legislature, but as there were members who objected to its denominational features the bill failed to pass, being laid over to the next session.

Meanwhile, under the influence of those who opposed this bill, an academy at Ann Arbor was incorporated, of which Mr. Merrill was urged to take charge, but feeling that his Christian aims and hopes would thus be compromised, he declined.

The same season, resolving to transfer his cherished enterprise to the western part of the Territory, he made his way to where Kalamazoo now stands, then the beautiful burr-oak openings in which the smoke of but a single log cabin arose, and passed south to the older settlement of Prairie Ronde. Here he assisted in building a log house for school and meeting purposes, and occupied it as designed during the winter of 1830-'31.

The plan of manual-labor schools was then coming into experiment, and Mr. Merrill was fitted to accept the theory. The questions before him, therefore, were how to purchase lands for the school, and how to reappear before the legislature and secure its incorporation.

Fortunately the practical wisdom, the generous liberality, and the intelligent Christian citizenship of Judge-Caleb Eldred, of Climax, stood now waiting to ally themselves with the high aims and the unconquerable tenacity of Thomas W. Merrill. Mr. Eldred was then dragging his surveyor's chain through the untrodden grasses of the lovely prairies and openings of Southwestern Michigan, and encamping with enthusiastic admiration in its majestic forests and beside its rivers and lakes. And among the way-marks which he was setting up were those which in his pious thought designated the places where his children and fellow settlers should have their worship and ordinances, and his denomination their Hamilton of Christian learning; for he had come from where the long shadow of the sacred school of Hascall and Kendrick had swept over him.

In the autumn of 1831 the traces appear of these two pioneers planning together the methods by which to raise money for the projected school. An appeal to the Baptists of the Eastern States was agreed upon, and with Judge Eldred's commendation Mr. Merrill visited the Michigan Baptist Association at Pontiac in September and secured their approval of his agency. A month later he was at the Baptist Convention of the State of New York, and received a hearty commendation of his object, signed by Elon Galusha, John Peck, William Colgate, and others. Except what Mr. Merrill paid in bearing his own expenses, the first subscriptions for the institution appear to have been seven ten-dollar ones from these ever-to-be-remembered Baptists of New York City: Jonathan Going, Nathan Caswell, James Wilson, John H. Harris, Bynan Green, William Colgate and E. Withington. Dr. Going was an originator and the first secretary of the American Baptist Home

Mission Society, and the deep imprint of his hand is on the foundations of our colleges in Ohio, Michigan, Indiana, and Illinois.

Returning from this agency in 1832, Mr. Merrill with Judge Eldred and others renewed their petition for incorporation. No provision for denominational control was now asked except by suggesting as trustees the early Baptists, ministers and others, then resident in the Territory. The bill again had to work its way through objections, but was helped over them by Judge Manning and Mr. F. P. Browning, of Detroit, and the date of its approval by Governor Porter was April 22, 1833. As Mr. Merrill paused here to take breath he wrote :

The Michigan and Huron Institute is the school upon which I have had my eye since I came into this Territory; the one for which I drew a petition, gave it circulation and presented it to the legislative council 2 years ago; for which I have petitioned thrice (once to Congress for a grant of land); for which I took up a subscription in the city of New York in May, 1832. This institution I trust will exert a most salutary influence upon the Baptist cause, and shed an enlightening, reforming, and sanctifying influence upon the citizens of this Territory. May our anticipations be more than realized.

Judge Eldred was elected president of the board of trustees, and for 25 years was annually reelected, filling the office with loving devotion and eminent ability.

The charter did not locate the institute, and for more than 2 years the weary fledgling was kept upon its wings between rival proffers for furnishing it a place to alight. In the autumn of 1835 citizens of Kalamazoo gave the sum of \$2,500, and a tract of land which is now the south part of the city was purchased, a building secured, and the school opened. An exchange of property afterwards gave the present most eligible site for permanent occupancy. An addition to the lands, extending farther into the city, with its building for chapel and recitation rooms, gives still easier access to the residents of the place. For this the college was made specially indebted to Mrs. Huldah E. Thompson, of Connecticut, Hon. C. Van Husan, of Detroit, and citizens of Kalamazoo.

The school was adopted for a short period as a branch of the University of Michigan.

Amendments were secured to the charter changing the name and enlarging the privileges of the institution, but for the last 35 years it has borne its present college title and exercised full college powers. A charter provision has also recently been obtained providing that the president and a majority of the trustees shall always be members in Baptist churches.

The names most permanently identified with the faculties have been William Dutton, A. B., as principal from 1840 to 1843, when death cut short his most promising career; James A. B. Stone, D. D., principal from 1843 to 1855, and, upon the entrance into college powers, president from 1855 to 1864, William L. Eaton being his associate in the earlier period. The leading associate professors and teachers up to 1864 were

Mrs. L. H. Stone, principal of the female department; Rev. Samuel Graves, D. D., Edward Olney, LL. D., Daniel Putnam, A. M., Edward Anderson, D. D., M. A. Page, A. M., Allen J. Curtiss, A. B., and Mrs. Martha L. Osborn.

From 1864 to 1867 John M. Gregory, LL. D., was president, and Heman Lincoln Wayland, D. D. and Silas Bailey, D. D., were additions to the faculty.

From 1868 to 1886, Kendall Brooks, D. D., was president, Samuel Brooks, D. D., and Professors Stuart, Hadlock, Haskell, and Montgomery, were assistants, with Misses King, Chase, and other lady principals and teachers.

Rev. Monson A. Willcox, D. D. was elected president in 1887, and with him have served as new professors G. W. Botsford, A. M., C. J. Galpin, A. M., and as lady principal Miss Mary A. Sawtelle.

The number of students last year was 181, of whom 39 were in college studies. Something over 150 students for the Christian ministry have been connected with the institution; and large numbers of both sexes have there become Christians and devoted their lives to consecrated service in this and in other lands.

The original policy of the Baptists of the State was to have a theological seminary at Kalamazoo, associated with the college. A large portion of the property, including the first building, was given with this design and had its title in the Baptist Convention of the State. Theological courses of study and classes therein were maintained for successive years. More recently this policy has been relinquished and the property is transferred in trust to the college on condition that certain advantages shall be extended to students for the ministry; and biblical instruction in some form is provided for in connection with the courses of literature and science. Theological courses proper are expected to be pursued in seminaries elsewhere, and assistance to students therein is given by the convention.

The financial condition of the college is one of entire freedom from indebtedness, with a temporary provision that keeps it thus free. In view of the time when this temporary provision against deficiencies will be exhausted, and to improve facilities, movements are going forward to increase the endowments to at least a quarter of a million of dollars. The president of the board of trustees, Mr. C. C. Bowen, of Detroit, is generously leading these movements.

The college has a field that is full of promise, a location and property for its seat almost unexampled in the West, and a homogeneous and united Christian body of supporters committed to its maintenance.

NEW BUILDINGS.

The college is now receiving the benefits of the Ladies' Hall, a new building recently added to the college, this being but the second year of its occupancy. It is not simply a dormitory for young women, but,

under the supervision of Miss Mary A. Sawtelle, the principal lady teacher in the college, it affords all the advantages of a cultured, Christian home. Young men may also avail themselves of the privilege of boarding at the hall, and thus come within the circle of its refining influences. But here, again, while we congratulate ourselves on the successes of the past, we ought not to be satisfied with what we have already achieved. The college grounds are spacious and beautiful, susceptible of being made unexceptionally fine. May it be a part of our larger plan to hasten the day when they shall be adorned with new buildings, suitable for class room and chapel, library, laboratory, and other purposes; in a word, with all the buildings which a great and thoroughly equipped college demands.

INCREASED ATTENDANCE.

One of the brightest features in the present condition of the college is the increase in the number of students. Between 80 and 90 new students have come to us the present term, against about 50 during the whole of last year, while the increase in the whole number of students this term over the number for the first term of last year is about 30 per cent., against a corresponding increase of 10 per cent. last year. This is all the more cheering because so closely connected with the very object for which the college exists. It is intended to train and educate these young minds and hearts soon to share so largely in shaping, directing and controlling the social, moral, and religious life of the world. Therefore a college with unlimited resources but with only a handful of students would be a miserable failure. Hence we are especially rejoiced over this increased attendance.¹

¹ Dr. Willcox resigned the presidency April 30, 1891. Rev. Theodore Nelson, at one time superintendent of public instruction of the State, was appointed to succeed him. Several changes have been made in the faculty. Samuel Haskell, D. D., has been appointed instructor in the English Bible.

OLIVET COLLEGE, OLIVET, MICHIGAN.

By Rev. JOSEPH S. DANIELS, A. M.,
Parsons Professor of Greek Language and Literature, Olivet College.

On the morning of February 14, 1844, a little company left Oberlin, Ohio, and slowly moved westward and northward toward Michigan. On the evening of the 24th of the same month they reached their destination. There were thirty-nine persons, including youth and children, in this little company. Their combined resources were not over \$10,000. Their leader was the Rev. John J. Shipherd, the founder of Oberlin College. Having more than realized his anticipations in the marvelous success and growth of Oberlin, which was then but eleven years old, and desiring to repeat its history in the States west of Ohio, he had gathered this group of families and friends with the design of planting a Christian colony and a Christian college in Michigan.

Mr. Shipherd had visited the State the previous year, selected the site and christened it Olivet. It was then but a wooded hilltop, the home of the wild deer, with a beautiful lakelet on its western outlook, a winding stream skirting its eastern slope, a village of the Pottawattomic Indians near by, and only five families of white settlers within a radius of 3 miles. No highway as yet led to the place, and the last 5 miles of the wearisome journey were over an Indian trail marked by the blazing of trees.

This colony laid the foundations of Olivet College. Their first work was to clear an opening in the forest, to build themselves homes, to construct a mill, and a building for the opening of the school. They were beset with many trials. The first year the floods swept away the dam they had built, the fire consumed their school edifice before it was finished, their leader sickened and died, and more than half the colony were prostrate with malarial diseases incident to the new country. Many of the colonists were discouraged and returned to their old homes. The few, with a sublime faith in the work they had undertaken, persevered and triumphed over all obstacles.

Mr. Shipherd's purpose in selecting such a place was that the colony should be the nucleus for the college—that the two should grow up in harmony and mutually support and mold each other. He led hither a

band of devoted Christian men and women, who were to lay foundations and leave their impress upon the school. Its doors were open from the first to colored students as well as white, to both sexes, and to the poorer classes, who had not means to secure an education elsewhere. Manual labor was to be a feature of the institution.

Though this never became an organic part of the college curriculum, yet the idea of the founder has virtually been realized. Olivet has ever been an attractive place for those who are compelled to work out their own education. The idea has brought to the college hundreds and thousands of those robust and earnest men and women who have to make their own way in life and who hunger and thirst after a higher education.

The object of the college and the purpose of its founders is well set forth in their first annual catalogue in 1846:

We wish to have it distinctly understood that the whole object of this institution is, has been, and we hope ever will be, the education of young men and women—especially such as are not rich in this world's goods, but heirs of the Kingdom of God—for the glory of God and the salvation of a dying world. * * * We have no partisan or sectarian interests to subserve and desire to have none. We wish simply to do good to our students by placing in their hands the means of intellectual, moral, and spiritual improvement, and to teach them the divine art of doing good to others.

With poverty as their “endowment” they began their self-denying work. The school opened in December, 1844, with nine students. They however rapidly increased and for many years the facilities were inadequate for the numbers who thronged the place for an education.

Having made repeated applications in vain to the legislature for a college charter, they wrought patiently for 15 years under the name of “Olivet Institute.” They were no more successful in their attempts at recognition by religious bodies. They were therefore compelled by force of circumstances to be independent both of church and State, and to develop that type of institution which they believe to be the best—an *undenominational Christian college*.

Finally in 1859 they secured a charter under a general law of the State, and the institute was merged into the college. Its first board of trustees consisted of 14 members, four of whom belonged to the original colony from Oberlin. These were William Hosford, Oramel Hosford, Albertus L. Green, and Fitz L. Reed. Rev. M. W. Fairfield was chosen as the first president of the college. In 1863 Rev. N. J. Morrison became his successor, and served until 1872. After an interregnum of three years, Rev. H. Q. Butterfield was elected in 1875, and still continues in office. While Olivet College is undenominational in its character and aims, yet its chief support and patronage has come from Congregationalists. The Presbyterians also have contributed to its funds, sent many of their children to its halls for education, and had a large representation upon its board of trustees.

This board consists of 24 members, four of whom are elected annually

for a term of six years. The president of the college is *ex officio* a member of the board. It is independent and self-perpetuating. The alumni of the college are represented by four members, who are elected by the board on the nomination of the alumni association.

The trustees meet annually on the third Tuesday in June, fill vacancies, transact general business, and appoint an executive committee and other officers necessary for the administration of the college during the year.

The government of the college is vested in its board of trustees. They control its finances, appoint its faculty, and are responsible for its entire administration. By the terms of its charter the president is required to make an annual report of the condition and work of the college to the State superintendent of public instruction.

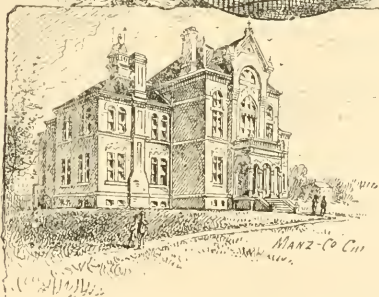
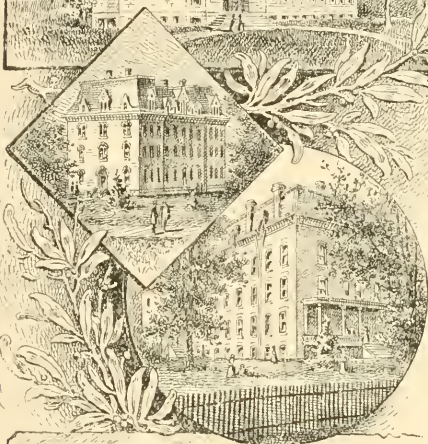
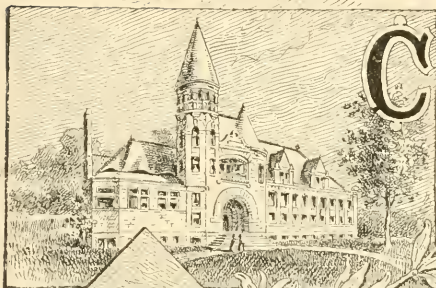
The faculty have the immediate charge of the instruction and discipline of the students and the making of all regulations necessary for the same, subject to the approval of the board of trustees. They meet regularly once a month, or oftener, at the call of the president. The board is made up largely of graduates of the best Eastern colleges, who impart to it the breadth of view and varied usages of their own institutions. The aim has ever been to make this board the representative of Christian character as well as of the best culture.

The growth of the college has been slow but healthful. Enlargement and expansion have come from time to time according to the demands made upon it. It began in poverty, it has always been poor, and ever struggling for something larger and better. But it began wisely with a high standard of scholarship and a high moral aim. Even in the days of its deepest poverty and its smallest classes it was unwilling to lower its standard to increase its numbers. Its earliest graduates therefore rank among its best scholars and reflect upon their *alma mater* the twofold luster of culture and character. These are its richest treasures to-day. For the wealth of the college consists not in its buildings, library, and museum, but in its men—both the men who make it and the men whom it makes. Preëminently is this true of Olivet. For while the college has never been able to pay adequate salaries, it has never failed to secure able instructors, who are attracted by the character of the work and the aims of the college. It has also attracted that most valuable class of students for whom the attainment of an education has meant an earnest struggle, and this very struggle has united faculty and students in common bonds of sympathy and made their work a delight rather than a task, and this feature of the college has won for it many friends who have generously aided it in its times of need. Indeed the college is both happy and rich in its many and liberal benefactors. To name them would be impossible, and yet many of them have built their names into the very structure of the college. Indeed they mark its historic growth. They are graven on its buildings, professorships, and scholarships. Shipherd, Drury, Palmer, Parsons,

OLIVET

COLLEGE

OLIVET MICH.



1. BURNAGE HALL (upper one in the group).
2. PARSON'S HALL.

3. SHEPHERD HALL.
4. MATHER HALL.

Rutan, Brown, Tuttle, Stone, Mather, and Burrage are household words in the college to-day. And each name is a way-mark in the growth of the institution.

The scope of the college has also been modified with its expansion and growth. In the days of the institute and the entire years of the college its chief work was in furnishing teachers for the schools of the State. But more and more its students are enrolled in regular courses and remain for graduation.

From the first a classical course of 4 years has been maintained. This requires two full years of Greek, Latin, and mathematics, with many electives in the junior and senior years.

Parallel to this is a literary course, omitting the Greek, and requiring the French and German.

A third course, the scientific, emphasizes the mathematics and natural sciences, with electives in the other studies.

These three courses constitute the college department.

Under the same board of trustees and as a part of the college, is the preparatory department with its principal and assistant teachers. This has three courses: a classical, with three years of Latin and two of Greek; a literary and scientific course of two years, including one year of Latin but no Greek; and an English course of four years, which furnishes a good business education.

Two normal courses also are maintained: an English, of three years, which qualifies for the third grade certificate, and a language course, which secures a higher grade certificate in the public schools.

An efficient art department furnishes without charge free-hand and mechanical drawing to every student in the college; and also, for extra tuition, studies in crayon, china painting, oil, and water colors. There is also connected with the college as a department, the Olivet conservatory of music, with able instructors—instrumental, theoretical and vocal. The conservatory offers full courses of study in each branch, and is empowered by its charter to confer diplomas and degrees upon its graduates.

In all departments of the college students have frequent practical rhetorical exercises to develop their powers of expression.

The culture of the moral and religious nature is also regarded of the highest importance, so that systematic study of the Bible is made a part of the curriculum, and regular attendance upon church is a requirement of the college.

Among the resources of the college we may mention first its grounds. These consist of four entire blocks or squares, with three ample lots adjoining, on the summit of the hill that crowns the village of Olivet. One of these blocks is an open park, with several fine specimens of the giant oaks—the monarchs of the native forest. One is a beautiful grove, densely shaded by the second growth of forest trees, and the others are the sites for the group of nine buildings belonging to the

college. The whole area is from 12 to 15 acres. The oldest building, known for many years as "Colonial Hall," is now enlarged and converted into a gymnasium. For this the college furnishes a professor, and the work of physical training is now a prominent feature of the education at Olivet. Next in order of time is the college church. This furnishes a chapel in the lower story for morning prayers, and also an audience room above for worship on the Sabbath. A distinctive feature of the institution is this: That the Congregational church of the village and the college church are one, and from the very beginning the colony and the college, the citizens, and the students have worshipped together, and for the greater part of the whole period some of the college professors have been pastors and preachers for the church. This has served in no small degree to make and keep the unity and harmony of town and college which has been so remarkable at Olivet.

Shepherd Hall, so named in honor of Rev. John J. Shipherd, is the home of the young women of the college, and contains rooms also for the principal matron and teachers in that department, besides the rooms of the Soronian society, and a large dining hall which furnishes board to students of both sexes at cost.

Parsons Hall, so named for Hon. Philo Parsons, of Detroit, its chief donor and also the founder of the Greek professorship, contains dormitories for young men, also the college office, recitation rooms, and the rooms of the Young Men's Christian Association.

The *President's House* is an elegant and spacious mansion, owned by the college, occupied by the president, and affording a place for trustee and faculty meetings, as well as class and other receptions of the college.

Mather Hall, bearing the honored name of Roland Mather, of Hartford, Conn., is devoted to the natural sciences. It contains the chemical, botanical, and biological laboratories, the museum, the signal-service station, and several recitation rooms.

Musie Hall was formerly a private dwelling fronting on the college park, but recently purchased and remodeled for the work of the conservatory.

Burrage Memorial Hall, so named from its chief donor, the late Leonard Burrage of North Leominster, Mass., who bequeathed \$20,000 for its erection, is an elegant building of Iowa sandstone, fireproof, and with a capacity of about 100,000 volumes. Besides its capacious stack room it contains an ample reading room, also reference rooms for quiet study and class work in the various departments.

The *Adelphic Hall*, though not strictly a college building, but the property of the literary society whose name it bears, yet properly belongs to the college group and represents a prominent part of the college work. It is a beautiful structure, made of the field stone—granite boulders—which abound in this region, and well illustrates the good taste and enterprise of its builders.

Ground has already been broken and work begun on a similar edifice by the Phi Alpha Pi society, with the hope of completing their new hall during the coming year (1890).

In this connection it is but just to make mention of the character and the work of the literary societies of Olivet College. They are a unique feature of the institution and a prominent part of its work. They were not transplanted from without, but are the native and spontaneous growth of the soil. They happily supplement the class-room work. They are open societies, and always welcome their fellow-students and teachers to their exercises. Hence they are rigid with themselves, and always maintain a high standard for character in their membership and excellence in their exercises. Some of the best literary work of the college is done in their halls.

Among the resources of the college should be mentioned its museum and library.

The *Museum*, the nucleus of which were the valuable collections of William B. Palmer and Rev. William B. Brown, has been greatly enlarged and enriched by special appropriations of the trustees, and is now one of the finest in the West for the purposes of instruction. It is a typical collection, and so arranged as to be itself an object lesson in the natural sciences.

The *Library* contains 17,000 volumes and almost as many pamphlets. It is classified according to the Dewey system, furnished with card catalogue of both authors and subjects, and allows both free access to its shelves and the privilege of drawing books for general reading as well as for class-room work. Its books have been selected with care and with special reference to the work of both professors and students. Its income is derived from a small incidental fee from each student, and from the Willie Sage Tuttle fund, \$15,000, the gift of the late Mrs. Luey E. Tuttle, of Guilford, Conn. The annual increase for the last nine years has been 1,000 volumes. A general summary of the resources of the college is as follows :

Grounds and buildings.....	\$135,000
Library, museum, and apparatus.....	35,000
Productive assets.....	163,000
Total.....	333,000
Number of graduates.....	255
Number of students in attendance ¹ during the year 1888.....	323

BIBLIOGRAPHY OF THE COLLEGE.

Memorial address, Olivet College and its History, June 28, 1866, by President N. J. Morrison.

Inaugural address, June 21, 1876, by President H. Q. Butterfield.

Baccalaureate sermon, June 15, 1879, by President H. Q. Butterfield.

¹ In 1830-'91 the number of students was as follows: College course, 179; preparatory, 149; normal and elective, 50; music course, 55; art, 55. Deducting 10 for names counted twice leaves total, 378.

Twenty-fifth anniversary of Olivet College, 1834, containing baccalaureate sermon by President H. Q. Butterfield.

History of Olivet Institute, by Prof. Oramel Hosford.

History of Olivet College, by Prof. Joseph L. Daniels.

Ought we to have a Department of Biblical Instruction attached to Olivet College? May 15, 1889, by Rev. W. B. Williams.

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Also the following college papers:

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HISTORY OF ALBION COLLEGE, ALBION, MICHIGAN.

By L. R. FISKE, D. D., LL. D., *President of Albion College.*

In the year 1833, Rev. Henry Colclazer, Rev. Elijah H. Pilcher, and Dr. Benjamin H. Packard united in an effort to secure the establishment of an institution of learning in the Territory of Michigan, the same to be under the control of the Methodist Episcopal church. Several places competed for the location of the proposed seminary by the offer of sums regarded as liberal. Encouraged by these offers the subject was submitted to the Ohio Annual Conference of the Methodist Episcopal Church, which had ecclesiastical jurisdiction over this Territory.

The project of founding an academy was indorsed by that body, and a committee appointed to determine the location and to use measures to obtain an act of incorporation from the legislative branch of the Territory. The charter was secured in March, 1835, and the school was located at an old Indian village in Spring Arbor, Jackson County.

The school was never opened at that place, and no buildings even were erected.

The outlook came to be so discouraging that many friends of the enterprise were ready to abandon it. But the village of Albion in the meantime had sprung into existence, and some of its enterprising citizens made a proposition for the removal of the location to that place, accompanying this with liberal subscriptions. This proposition was accepted by the Michigan Annual Conference, which had been created since the movement for a seminary was projected, and the legislature of the State, in 1839, amended the charter, making the proposed change of location and reconstructing the board of trustees.

ERECTION OF BUILDINGS.

In the autumn of the same year, 1839, Rev. Loring Grant was appointed agent, and commenced soliciting funds for the erection of buildings.

A system of scholarship was at this time devised which was an important aid in raising money, but as this money was used for building purposes, and the scholarships guaranteed free tuition to parties hold-

ing the same, they introduced serious embarrassment when the school was opened and the salaries of instructors became due.

The corner stone of the first building was laid in June, 1841, and the structure, 50 by 100 feet, and four stories high, was completed in time for the opening of the institution in November, 1843. The second building, of about the same size, was finished in 1853, but was consumed by fire within a year after its completion. The year following it was rebuilt, but somewhat reduced in size. The third building was erected in 1857. The last building constructed up to the present time is an astronomical observatory, which was completed and equipped in 1884.

GROUNDS AND VALUE OF PROPERTY.

The college grounds comprise about 20 acres in the city of Albion, the principal portion of the same lying west of the buildings towards the business part of the city. These grounds, the four buildings, together with the contents of said buildings, are valued at \$100,000. If located in a large city the valuation would be much higher.

THREE PERIODS.

Educationally, there have been three distinct periods in the life of the institution. It was first chartered as a seminary, to supply instruction above that which could be obtained in the public schools, but was not authorized to confer degrees. In this sphere it had a vigorous existence. It was widely patronized within the State of Michigan, and to a considerable extent from other States. It then did a work which, since that time, has been done by our best high schools. But as the graded schools came into existence and increased in number and in the quality of the work done, the demand for an academy became less general; hence, the legislature of 1849, on application, amended the charter creating a female college, giving to the institution the corporate name of "Wesleyan Seminary and Female Collegiate Institute," authorizing the conferring of degrees on women. In 1861 the charter was again amended, granting general college powers, and changing the corporate name to "Albion College." The grade of work in the female college was about on the plane of the sophomore year in institutions for young men. When the charter of 1861 was obtained a complete reconstruction of courses took place, to make the same equal to the standard in our best American institutions.

Since the general college charter was secured there have been added a conservatory of music, granting the degree of B. M., and a school of painting in which the degree of U. C. is granted. The conservatory of music has reached large proportions, and now employs 7 teachers.

There has been a further enlargement by the erection of a commercial department.

In 1888 the foundation of a school of oratory, preparatory to a general college of oratory, was laid. Plans are formed to develop this school as rapidly as the funds will admit.

MIXED CHARACTER.

As Albion College was founded as a seminary, it was natural that with the grant of college powers the academy should be retained as a preparatory school; hence the 4 years' courses of study in the college of liberal arts rest upon preparatory courses, all of which are under the same general supervision.

These preparatory courses for some time included 3 years of work. In 1883 they were extended so as to cover 4 years.

The institution from the first admitted students without distinction of sex, and has conferred its honors alike on both since it gained general college powers. The prevailing judgment of those in authority favors the coeducation of the sexes, as giving better preparation for the social life of coming years, while it does not lessen the inspiration for study, and in many cases increases it.

FINANCIAL HISTORY.

An effort was made in 1839 to provide for current expenses by issuing scholarships of \$100, each guaranteeing free tuition, as heretofore stated, for 4 years. Many of these were used up in meeting the expense attending the erection of the first building. Then the conditions made the sale limited, and the resources were found to be quite inadequate to meet the needs of the institution.

In 1849 another scholarship plan was adopted, making the tenure of scholarships perpetual, and putting the same on the market at \$100. Considerable money was raised, but as Michigan University made no charge for instruction and a growing tendency towards free schools existed, the scheme in a few years was wholly abandoned.

In 1865 a plan was made by which the people of Albion and vicinity were to raise \$25,000, and the Methodist public in the balance of the State \$75,000, thus providing \$100,000 in all. The greater part of this sum was realized.

In 1870 at a Methodist State convention, held at Albion, David Preston, of Detroit, submitted the proposition that if 50 persons would give in the aggregate \$50,000 within 2 years, he would within the space of 1 year thereafter raise \$60,000 more from the people. This offer was joyfully accepted, and the whole amount of \$110,000 was subscribed before September 15, 1873. The entire sum was paid in with the exception of a subscription of \$10,000 of the first \$50,000, the subscriber meeting with pecuniary embarrassment, which rendered the fulfillment of his pledge at the time impossible. This subscription has never been canceled.

In 1883 another movement to increase the endowment was made, and about \$30,000 of productive funds was secured, and \$100,000 in lands and other property, which, for the time being, are unproductive.

Rev. John Morrison Reid, D. D., of New York City, in 1887 gave to

the college lands in Chicago and on the shore of Lake Michigan, just north of the city, valued at \$30,000, to endow the chair of Greek. This is as yet unproductive, but its value will in a few years, it is believed, be greatly enhanced.

The alumni of the college a short time ago entered upon the work of endowing a professorship, and subscriptions amounting to \$8,000 have been made. It is expected that this movement will speedily be pushed to a completion.

In September, 1889, Hon. Henry M. Loud, of Oscoda, Michigan, made a gift of \$30,000 to endow the chair of history. The interest on this is immediately available. As the result of all of this the institution has at the present time about \$230,000 of productive endowment, and \$150,000 of unproductive endowment, aside from some bequests amounting to a considerable sum not yet available.

Only the interest from the endowment fund of the college can be used or controlled by the board of trustees. The principal is held by an endowment fund committee possessing corporate powers, and created by act of the legislature in 1865. The income from the fund held as principal is paid over to the trustees once in three months, to provide for current expenses.

GOVERNMENT OF THE INSTITUTION.

The general government of the institution was at first vested in a board of trustees of twelve persons, appointed by the Michigan Annual Conference of the Church. In 1856 the Michigan Conference was divided, the same becoming the Michigan Conference and the Detroit Conference, and the charter was so changed as to empower each of these conferences to appoint six trustees. The charter was still further amended in 1882 so as to authorize the society of alumni to elect three of its number members of the board of trustees, thus enlarging the board to fifteen. But the president of the college is *ex officio* a trustee, so that the board is constituted of sixteen persons.

In order to secure thorough inspection of the work done, the State appoints annually a board of visitors and examiners, which board makes a report to the Superintendent of Public Instruction. The Detroit and Michigan Conferences and the Society of Alumni appoint similar boards.

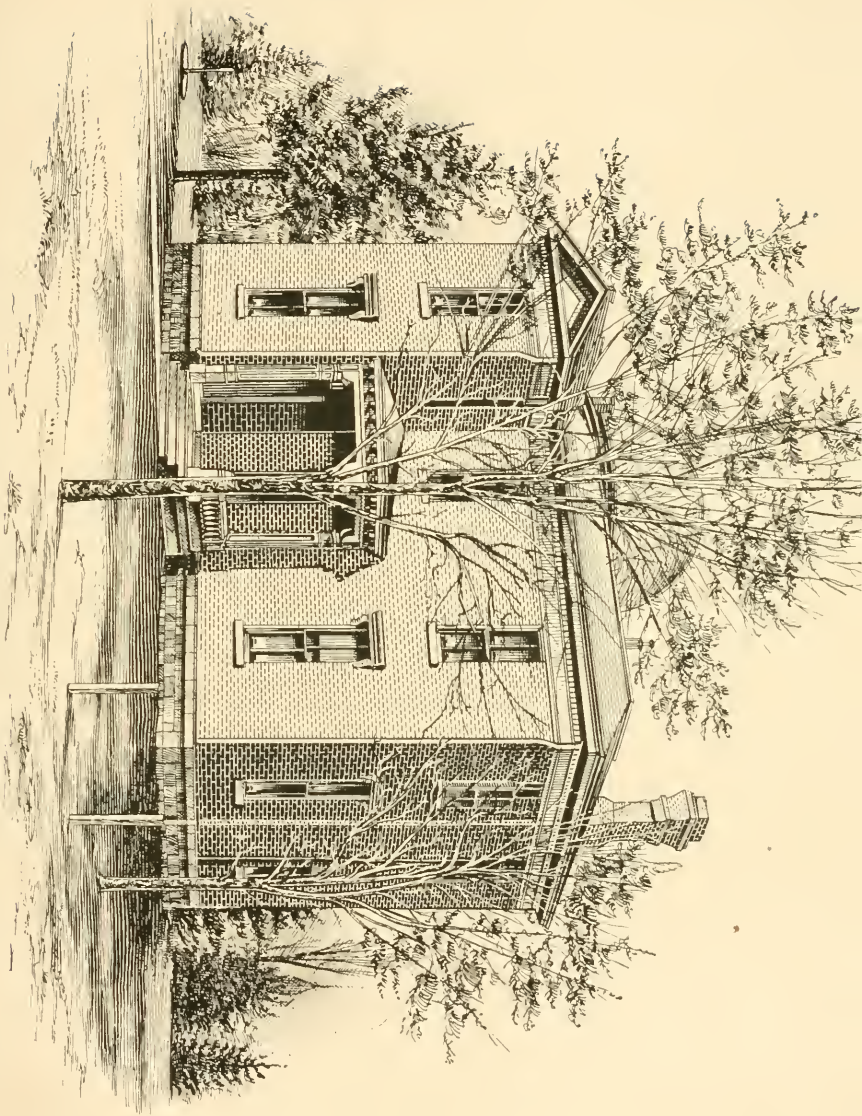
In the interim of the meeting of the board of trustees a certain measure of power is vested in an executive committee consisting of the officers of the board, who are also constituted an auditing committee.

The immediate educational government of the college is in the hands of the president and faculty.

COLLEGE APPLIANCES.

The gathering of appliances and material for work and illustration has been accomplished principally within the last ten years.

No. 12. ALBION COLLEGE—ASTRONOMICAL OBSERVATORY.



Library.—The library contains 7,150 bound volumes and a little more than 2,000 unbound volumes and pamphlets. The policy pursued in selecting books has been to procure, first, such books as relate directly to the studies pursued in the several departments, purchasing books of a more general character only when the former want was pretty well supplied. Hence many of the volumes are expensive, as an extensive range of reference books has been procured. In some of the departments, especially that of philosophy, the collection is very complete.

The nucleus of a literary museum has been formed by placing in the library a glass case for books especially notable on account of age, rareness, ownership, etc.

Maps and charts.—Of apparatus for illustrating the work in language, literature, and history the institution has probably as large a collection as any school in the United States. Both the Latin and Greek departments are provided with full sets of classical maps. The Greek department has large materials for the illustration of Greek archaeology, and also a complete set of charts for exhibiting in detail the topography of ancient Athens. The head of this department is working out, on an original plan a series of language charts, which, when completed, will present to the eye a full outline of the leading facts of Greek grammar.

The history department, where the "layer map" plan, devised by Prof. F. M. Taylor, who is at the head of the department of history, has been introduced, has at its command about 180 maps, representing successive stages in territorial history. If every change which can be represented singly be counted, the total number of possible maps would aggregate about 800. In addition to the series formerly prepared, showing the development and break-up of the Roman Empire, the formation of the new nations up to 1843 A. D., the break-up of the Ottoman Empire from 1699 to 1885, the development of Prussia to 1866, the growth and dissolution of the Napoleonic empire, and the unification of Italy, there has just been prepared a set of "layer maps" for the United States, showing every territorial change in its history from 1763 to 1876—changes the number of which falls but little short of 100. As new maps are being constantly added, the college hopes to be able in a few years to exhibit every important territorial transfer appearing in the course of history. The advantages of the layer map over others are important. It is superior to the series of maps, because, (1) it changes with history; (2) a more definite concept of the changed territory is obtained when it can be taken off and handled as a piece of cloth; (3) the student can be set to work out the changes for himself, to build up or take to pieces the map; and (4) it is less expensive, involving but one or two full-sized maps. It is superior to the blackboard scheme, because, (1) it is clearer; (2) it is more accurate; (3) it is easier to reproduce, and so not too difficult for the student and the overworked teacher; and (4) it preserves both the original condition of things and the changed order, each of which can

be reproduced in turn, and thus the exact nature and extent of the change can be clearly and definitely seen.

Laboratories.—These occupy the two stories of what is called the central building, with a ground floor of 50 by 50 feet, the same being divided up into a general lecture room, working laboratories, and rooms for apparatus and chemicals.

The chemical laboratory contains tables for 35 students, fully furnished with reagents and all apparatus required for the thorough demonstration of the facts and principles of the sciences.

The biological laboratory contains tables for 40 students. 13 compound microscopes, several hundred mounted objects, and all necessary appliances for preparing and mounting specimens in all departments of biological research. The institution has secured an ordinary supply of apparatus to meet the wants of the general physical laboratory in the study of electricity, galvanism, mechanics, hydrostatics, acoustics, etc.

In connection with these laboratories, and easy of access by the students, is a chemical and a biological working library of about 500 volumes.

Astronomical observatory.—The observatory stands on the campus, on high ground, affording an uninterrupted view in all directions. The building is of brick, two stories high, with a round tower which rises to three stories, and is surmounted by a dome. On the lower floor is the lecture room of the department of astronomy and applied mathematics, and the pier rooms, through which pass the brick supports for the fixed instruments. These are also utilized for containing the apparatus employed in the study of physics. On the second floor are the transit room, containing the transit circle, clock and chronograph, a computing room, a room for portable instruments, used also as a workshop for the manufacture of such apparatus as can be here constructed for the illustration of physical problems, and a room containing the astronomical and meteorological library. Here are also kept the meteorological instruments, observations of which are taken three times a day, and forwarded to the officers of the State board of health and the United States Signal Service. In the round tower is placed the equatorial.

The instruments are of the best class.

Excellent instruments are also provided for practical work in field surveying.

Museum.—Very early in the history of the college a beginning for a museum of natural history was made by the gift of a valuable box of copper specimens by the Revs. W. H. Broekway and J. H. Pitzel. Later on Dr. Alexander Winchell, then State geologist, presented the institution with a collection of 1,000 specimens of named and mounted minerals. Little use was made of these till about the year 1880. The year previous to this the college sent one of its faculty to Brazil for the purpose of making collections of the remarkable fauna and flora of that

region. This expedition was highly successful, resulting in the collection of several hundred specimens of birds and animals. These were immediately put to use in the regular work of instruction. Many additions have since been made by other travelers in South America, Mexico, Africa, Japan, China, and other countries. The collections are located in the second and third stories of what is known as the central building in large well-lighted rooms, 50 by 50 feet, and comprising two stories.

All departments of natural history are represented. In zoölogy there are 1,500 type specimens; in botany 700 mounted and named specimens, about half of these being from the flora of Michigan and the remainder from South America, Mexico, and Japan; in mineralogy and paleontology, 3,000 specimens; in ethnology and archæology, 200; in numismatics, 200 or 300 coins, medals, etc.

In all this special efforts are constantly being made to completely represent the fauna and flora of our State.

The collections will thus be seen to be not large, and yet perhaps as large as can well be used for the main purpose for which a museum should exist, viz, as a valuable and necessary adjunct to the work of instruction and the researches of the students. This service the museum of Albion College performs. Its specimens are daily brought to the laboratory and class room for dissection and observation, and the student is thereby able to study the fauna and flora of the distant portions of the earth.

Besides the mounted specimens displayed in the cases, the college keeps constantly on hand many hundred specimens of type forms preserved in alcohol, in order that when a given subject is reached every member of the class may be supplied with a study specimen. In this way the work of acquiring knowledge of a subject, such as botany, zoölogy, or mineralogy, does not consist in the mere acceptance on faith of the statements of the author, but it is the privilege of the student to challenge those statements by a practical appeal to the natural object.

Quite recently large collections of objects, representing the condition of pagan lands in matters of religion, have been received as donations of special interest in the line of missions.

Conservatory of Music.—The institution has a full equipment for instruction in music.

The conservatory has a valuable musical library which is being enlarged as desirable publications make their appearance. It is also in receipt of the best musical papers and journals.

School of Painting.—This school occupies a suite of rooms in the north college building, both as working rooms and for an art gallery. The gallery contains a large number of studies covering a great variety of subjects. Of these some are fine imported studies—copies from celebrated painters—which represent the various schools of art. A complete set of models for drawing, consisting of cubes, cones, etc., are provided for use; also models of different parts of the human figure.

The art room is supplied with a somewhat extensive collection of heads and busts of distinguished men of the past.

Provision has lately been made for the study of decorative art.

RADICAL REORGANIZATION OF ORDER AND METHODS OF WORK.

Early in the year 1882 the faculty took up, as a special subject for consideration, the character and order of work in the college. The institution had up to that period pursued the time-honored method of the older colleges in this country and England. The study of the languages began with the Latin and Greek, the modern languages coming later. In history the student commenced with the most ancient times and worked gradually up to the present. The study of the development of the sciences preceded the enunciation of the true theory of the sciences as finally determined. It was the starting with that which had been initial historically in the development of civilization, in the order of work, carrying, somewhat darkly, the mind of the pupil along the same track which the race has pursued in coming up to the present status of scholarship.

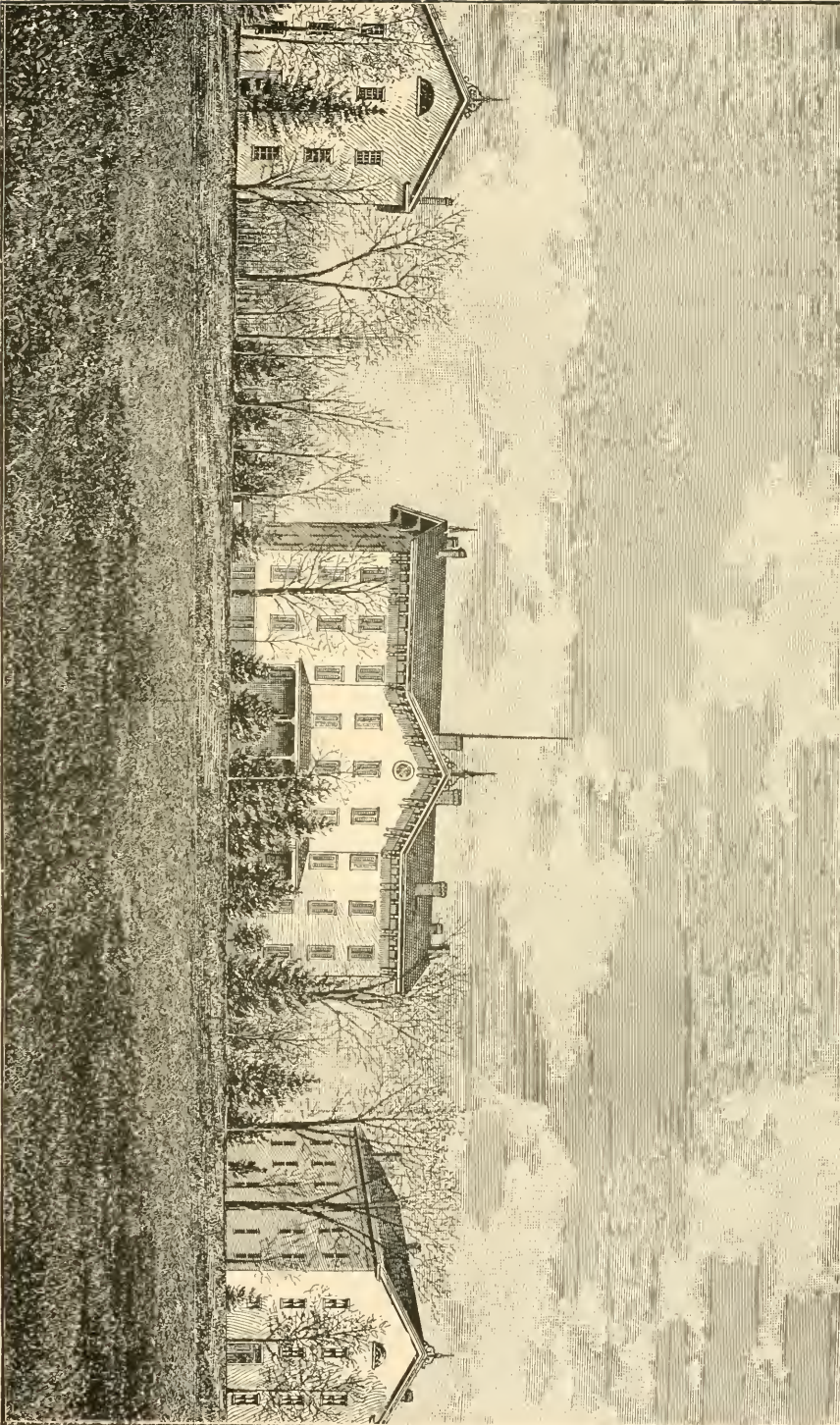
It did not utilize the knowledge which to-day is the product of the past in order to study the past, but it plunged the pupil at once into the far-off ages of antiquity that he might work his way home again.

Many learned men, especially on the other side of the ocean, had come to the conclusion that this method was unphilosophical, but none of our colleges had ventured to break with the customs which were gray with age.

Particularly was it true that a good many philologists had reached the conclusion that there were reasons for the study of modern languages aside from their relations to ancient tongues : that of themselves these languages possessed merit, and should be pursued because of their intrinsic worth.

The reasons for a radical change in methods seemed to be so weighty that Albion College in 1882 resolved to try the experiment, and at that time inaugurated "The New Movement," as it has been commonly called. As the institution had a preparatory school to fit students for the College of Liberal Arts, the principle it was thought desirable to adopt could easily be employed. The changes made were substantially the following :

The study of the modern was put prior to the study of the ancient languages. This order was adopted for the following, among other reasons: (1) No system of college work is carried forward to the best advantage which does not bring to the student, to a large extent, resources of learning found in several of the European languages of to-day. During the first years of his college course, not less than the last years, the student needs to be able to read readily the French and German languages ; (2) in many respects the modern spoken languages can be more easily learned than the ancient unspoken languages. In



NORTH BUILDING.

CENTRAL BUILDING.

SOUTH BUILDING.

No. 13, ALBION COLLEGE, ALBION, MICHIGAN.

its structure the English more nearly resembles the other modern languages than it does the ancient languages. Instead of making the violent leap from English to Latin some of the living European languages are first studied, by means of which the student fits himself, to a considerable extent, to grapple with the difficulties he must encounter.

The Latin and the Greek are preëminently inflectional. In pursuing these branches the student must for a long time occupy himself with that which to him seems almost wholly arbitrary. The lack of interest in his work, which is quite sure to appear, dulls his powers of perception. The result is, his progress is less rapid than it ought to be, and the prospect of his becoming a profound scholar is greatly impaired. Such a state of intellectual life, produced just as young people enter upon a preparation for college in many cases, causes them to abandon the plans formed to reach a high plane of scholarship long before any large acquisitions have been made.

By taking up a modern language first the student finds himself quite at home. His previous study of English has prepared him to master this new tongue. He is also living in the world of to-day. He is inspired by the fact that this is a spoken language; that it puts him in communication with his neighbors. He hears the heart beats of the present day, and is thus aroused by the discussion of themes of living interest. And having gained the mastery of one or two living languages he finds himself half way back, in the scholarship acquired, to the Latin and Greek.

Latin and Greek are more easily learned after the student has gained a comparatively good knowledge of French and German. And before commencing the study of such languages as the Latin and Greek, it is held that a person needs to be accustomed to the study of languages where there are fewer difficulties to overcome.

In this reconstruction of the courses of study the pupil takes up modern history before the ancient. The plan is for him to survey, first, the condition of the world historically as it is to-day. Having determined the status, the character, the civilizations of the nations of the earth at the present time—knowing what the past has produced—the student is set at work to find the causes of these historical results. He is now able intelligently to work toward a perceived end. The problem is a definite one.

The reasoning which brought the faculty to establish this order in that portion of the curriculum given to history led to the adoption of the same order in scientific studies.

In the reorganization of the curriculum another principle was consulted and emphasized, that the reasons of things could not be determined until a knowledge of the things themselves had been gained. In other words, knowledge is at first largely empirical. Intellectual operations in early life are predominantly perceptual, gradually becoming

more and more reflective. In the broadening and deepening of scholarship there is increasingly the employment of the understanding and the reason. In early life the pupil must, to gain the largest results, employ principally the faculty of perception, his line of work should call this energy of the intellect specially into use. But still further, in the nature of the case, chronologically the empirical must precede the rational. It is the *what* and then the *why*. We must know the what before we can explain it. It is wholly irrational in the process of gaining knowledge to begin with abstractions. Abstractions are meaningless only as they are preceded by the concrete object. There can be no such thing as the discovery of the laws of nature without a previous familiarity with nature. Principles are determined by the study and comparison of objects which illustrate the principles. In looking for the philosophy of things the problem to be solved must be perceived before the solution can be given. And the student will have a better understanding of the principle if familiar with the conditions and mode of determinations. Therefore, it is held that in the order of work the pupil in college should traverse more or less fully the ground traveled over by the discoverer. The methods should be inductive rather than deductive. Thus the pupil will proceed from the simple to the complex, from the near to the remote, from the concrete to the abstract. His life is not that of a pupil so much as that of a student. He reaches out for truth, aided, as may be found necessary, by the professor. He is more than a learner; he is an investigator. In this way he becomes a real, independent thinker, taking as little on authority as the nature of the study will admit. In this new movement an effort has been made to utilize, more generally than was usual, the philosophical principle here enunciated. The method employed in the teaching of science has been made distinctly inductive.

The claims urged by those who were the most ardent supporters of the new movement are (1) that this method is natural, the old method unnatural; (2) that better scholarship will be gained; (3) that a more living interest will be felt in college work; (4) that the scholarship acquired will be in fullest harmony with the progressive civilization of the present day.

It is now seven years since the college entered on this experiment. The time is too brief to demonstrate its entire success. Professors also must become used to a new order, and it requires time to secure preparation to follow it to the best advantage. Also, in view of the relations of the college to high schools and preparatory schools in which this method is not pursued, a great many difficulties have been in the way of a fair trial. This, however, is true: The attendance has increased yearly since the order was adopted much more rapidly than before, the spirit of scholarship has become much more marked; and the college has gained in standing and influence among the people; but it is difficult to say to what extent other factors may have entered into the problem.

OTHER CHANGES.

It is proper here to state that since the foregoing movement was inaugurated two other important changes have been made: First, a wide range of electives has been provided. These electives cover both the junior and senior years, except three studies. Some studies in the sophomore year have also been made elective. This liberal movement has not broken down the distinctions in lines of work pursued for the degrees. The degrees A. B., B. Ph., B. S., and B. L. are given in courses which are distinguished by marked and characteristic differences.

The other important feature referred to is the introduction of a scheme of research work, carried forward in the several departments, as the students may choose. This has proven to be of great value to those who have entered upon it. It has been confined to the junior and senior years.

ATTENDANCE.

The attendance has considerably more than doubled in eight years. In 1880-'81 it was 217, in 1888-'89 it was 460.¹ The opening of the year 1889-'90 gives promise of an enrollment of 40 or 50 more than during the preceding year.² In the college of liberal arts there are 115, of whom 45 are in the freshman class. By these figures it appears that in the college proper the attendance has doubled in five years.

PRESIDENTS.

The institution, as seminary, female college, and college of liberal arts, has had eight principals and presidents, as follows: Rev. Charles F. Stockwell, A. M.; Rev. Clark T. Hinman, D. D.; Hon. Ira Mayhew, LL. D.; Rev. Thomas H. Sinex, D. D., during whose incumbency the school became a college of liberal arts; Rev. George B. Jocelyn, D. D.; Rev. J. L. G. McKeown, D. D.; Rev. William B. Silber, Ph. D.; Rev. L. R. Fiske, D. D., LL. D.

ENDOWED DEPARTMENTS.

The chairs designated as endowed have been named in honor of benefactors of the institution who have generously contributed of their means to broaden its endowments. In some instances the amounts given are considerably larger than the sums usually provided as the foundation of professorships. In three cases however, these endowments have not been converted into money, and therefore are as yet unproductive.

¹This includes 102 in college department, 185 in preparatory schools, 108 in conservatory of music, 9 in school of painting, 34 in commercial department, 22 in department of oratory.—A. C. M.

²The Year Book of 1890-'91 shows 529 students, distributed as follows: Collegiate department, 142; preparatory department, 167; school of oratory, 53; conservatory of music, 204; school of painting, 53; commercial department, 72; 19 unclassified students of orchestra music. The above analysis includes 181 counted twice.

RELIGIOUS CHARACTER OF THE SCHOOL.

Although under the auspices of a church this is not a theological school. There are a few elective Biblical studies, but the institution was established in the interest of general education. There are no theological tests and no religious exactions, beyond regular attendance at chapel exercises during school days and attendance on church on the Sabbath, giving the students their choice of place of worship. The college was not founded in antagonism to State schools, but to do a work for the church which, in the judgment of its originators, the State could not do, that is, to give the church more efficiency than it would otherwise possess, and also to meet an obligation to aid in the general culture of the public.

The census has shown that usually more than two-thirds of the students are church members, the most of these belonging to the Methodist church, but nearly all religious bodies have representatives here.

The atmosphere, as might be supposed, is decidedly religious, and many young people enter on a Christian life while connected with the college.

There are at present 24 members of the faculty, and the subjects taught embrace philosophy, Greek, Latin, biology, chemistry, history, belles-lettres, music, French, German, English language and literature, astronomy, mathematics, oratory, musical history, drawing, penmanship and shorthand, oratory, bookkeeping.

ADRIAN COLLEGE.

Sketch furnished December, 1889, by G. B. McELROY, D. D., Ph. D.

Adrian College was organized March 22, 1859, in accordance with the provisions of an act passed by the legislature of the State of Michigan entitled "An act to provide for the incorporation of institutions of learning."

This institution comprises several distinct schools, each having its own faculty of instructors and distinct course of study, leading to appropriate degrees. These several schools, while individual in their functions, are under the common management of the trustees of Adrian College. Students in any one of these schools may, under certain conditions, enjoy the advantages of the other schools.

At present six schools are included under the government of Adrian College: The college of literature and arts, the school of music, the school of theology, the normal school, the preparatory school, the school of commerce. A full description of each of these schools, with course of study, conditions for entrance, etc., may be found in the college catalogues, under appropriate headings.

The associated schools of the college are under the control of a board of 30 trustees, 24 of whom are elected by the general conference of the Methodist Protestant Church and 6 by the Alumni Association of the college.

The assets of the institution, including endowment, grounds, buildings, furniture, apparatus, musical instruments, outlying lands, etc., amount to more than \$300,000.

The principal donors to the endowment fund are Joseph J. Amos, of Rushville, Ind.; William M. Hamilton, of Wenona, Ill., and Calvin Tomkins, of Tomkins Cove, N. Y. The first has endowed the chair of systematic theology in the sum of \$20,000, the second has given \$11,236 toward the endowment of another chair, and the third has contributed \$10,000 to the general fund. These sums, as well as a portion of the endowment fund obtained by general subscription, are now invested in real-estate securities and yielding income.

The institution is slowly but steadily growing in the number of students and in its denominational influence.

Its appliances for teaching are very full and good, and its faculty, consisting for the most part of young men, are earnest and enthusiastic. The library contains about 4,000 volumes and the reading-room is well supplied with papers and magazines.

[Added by Prof. A. C. McLAUGHLIN.]

In 1890-'91 there were some 75 students in the college of literature. Joseph F. McCulloch, M. A., is at present president of the college. The library now contains some 6,000 volumes. It has been greatly enriched recently by addition of works in philosophy. Several thousand dollars have been added to the endowment fund in 1890-'91. An examination of the college course and the requirements for admission shows a curriculum much the same as that of the University of Michigan. The requirements for admission to the A. B. course are almost identical.

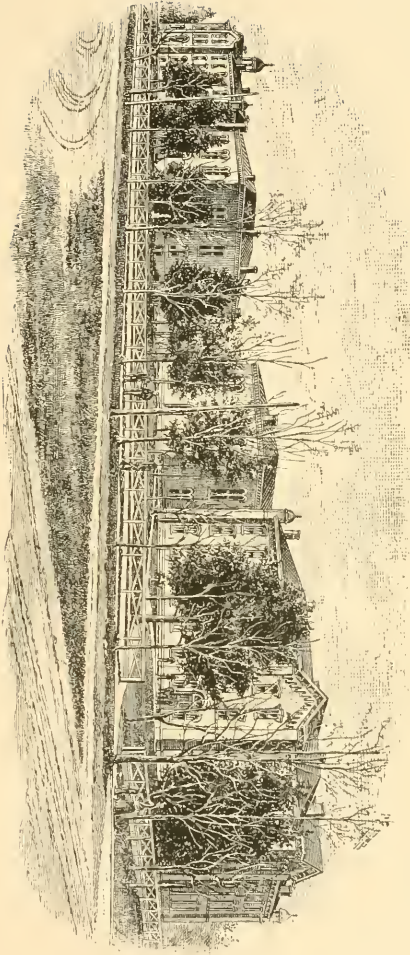
THE MUSEUM.

The collection illustrative of Zoölogy, Geology, Mineralogy, Archaeology, and nearly all departments of Natural History, is a very large one, numbering many thousand specimens. Besides numerous purchases, it includes valuable donations from Dr. John Kost, Rev. I. Dunham, of Massachusetts, Maj. J. H. Cole, of Adrian, and Rev. I. C. Billman.

I. The zoölogical collection is quite large, comprising animals and birds from all parts of the world. A large number of these specimens was included in the cabinet purchased from Dr. John Kost. Among several thousand specimens may be mentioned an African lion, an elk from the Rocky Mountains, a gorilla from Africa, an eland, a zebra, a crocodile from the Nile, a polar bear, a black bear, an African antelope, a cassowary, etc. Rev. Mr. Billman has donated a collection of birds, including nearly all that visit Michigan and Ohio. Fourteen large cases of birds and smaller animals, grouped according to the localities they inhabit, are to be found in the gallery. Among these the arctic and tropical cases are especially attractive.

II. The mineralogical collection includes a very complete list of ores and minerals. A great variety of copper, iron, silver, gold, zinc, and other ores, may be found in the museum. A valuable collection of precious stones, and specimens of a great variety of minerals, from different parts of the world, are in the possession of the college. A large section from one of the basaltic columns of Giant's Causeway, in Ireland, and a very great variety of silicified wood and other petrifications, are interesting specimens for the student.

III. The geological collection comprehends specimens from nearly all the more important formations. A large collection of fossils from the Lower Silurian, Devonian, Carboniferous, Jurassic, Cretaceous, and Tertiary formations are arranged in cases in the order of their de-



ADRIAN COLLEGE.

posit. Several valuable casts of extinct animals are in the possession of the college; among these, a large Ichthyosaur, purchased from Professor Ward, New York, and a cast of a Plesiosaur, about 20 feet in length, made by Dr. Kost. The skeleton of a large mastodon found in Lenawee County, Mich., has been mounted and is nearly complete. A very comprehensive collection of corals and sponges has been recently donated to the college by Dr. John Kost. These specimens have been handsomely mounted by him, and placed in the new cases provided for the purpose. This addition gives an unusual completeness to the collection in this direction.

IV. The archæological department includes various articles used by the North American Indians and mound-builders, among which are pottery, hatchets, flint arrowheads, etc., with domestic utensils and articles of war, clothing, etc., from other parts of the world.

V. Miscellaneous collections include a collection of skulls for the study of comparative anatomy; a collection of fishes; a collection of marine and fresh-water shells; a collection of models illustrating the various parts of the eye, ear, heart, lungs, etc.; a human skeleton; a manikin; charts, etc.

HOPE COLLEGE, HOLLAND, MICHIGAN.

By CHARLES SCOTT, D. D., *President of Hope College.*

Traders from the Netherlands began to locate their posts upon the Hudson in 1614 and were followed soon after by farmers and other permanent settlers. Thus, from Manhattan as a center a colony of increasing promise fixed the name of the "New Netherlands" upon the fair region between the Connecticut and the Delaware. After 50 years this Holland plantation came under the sway of England, but the old Dutch settlements spread with the usual thrift of that nation, until, in 1789, their 20,000 families, mainly in New York and New Jersey, added a most valued quota to the population of the American Union.

These immigrants were the best educated that came from Europe to the colonies. True, they did not begin a college like Harvard, for their ministers were called from the grand universities of the Netherlands, but they failed not to plant the church and the school in every suitable locality where the Dutch language had predominated. The oldest school in the United States is probably that of the Collegiate Church in New York, and in the same city a "Latin school" was long fostered with the object of making it a provincial college or university, after the model of Leyden. Lieutenant-Governor De Lancey in 1753 chartered said college (now Columbia), as "Episcopal," and thus forced the Reformed or Holland congregations, or a part of them (for they were divided on the subject), to establish institutions of their own. As a result Queens (now Rutgers) was chartered by the governor of New Jersey in 1766, and again in 1770, followed by a theological seminary in 1784, and thus the oldest in the United States.

After the lapse of 183 years began another era of Dutch colonization in America. In 1847-'48 many from the Netherlands settled in western Michigan and in parts of New York, Wisconsin, and Iowa, and their settlements have greatly multiplied and become a population of over 75,000 souls. It is said that the city of Grand Rapids numbers 20,000 of Holland birth or origin.

And have these people lost the religious and educational spirit of the older knickerbockers? By no means. Erecting the same banners they seek in the same way the welfare of the republic. As early as 1850

the Michigan colony desired a classical academy—a “seminarie” for the training of their ministers. Dr. A. C. Van Raalte, their leader, donated, in the village of Holland, a fine tract of five acres as a campus for the purpose, and deeded it to the general synod of the Reformed Church in America. In 1851 the school was opened and in 1855 was placed under the care of Rev. John Van Vleck, A. M., an appointee of the board of education, R. C. A., and an excellent scholar. He gave it the name of “Holland Academy,” and in 1857 moved to what is now Van Vleck Hall. This was a new edifice of brick, 40 by 50 feet on the ground; three stories high above a finished basement of stone, finely situated upon a hill of the five-acre campus and costing over \$13,000. The state of his health caused Mr. Van Vleck to resign in 1859, and he was succeeded by Rev. Philip Phelps, jr., who carried on the academy most efficiently until 1865-'66, when the catalogue showed 3 teachers and 48 students in the academy. Meantime the campus had been enlarged to 16 acres, much beautified with a good two-story dwelling, and a gymnasium added to the buildings. Up to this date no endowment funds had been raised, nor did any incumbrances rest upon the school.

In 1863, the idea of a college first began to assume form. The general synod appointed a “board of superintendents” and suggested an endowment of \$30,000. The next year a “plan” was referred to and adopted by the synod with a proposed endowment of \$85,000. The work of raising funds went on through 1865, mainly by the agency of Dr. Phelps, resulting in cash, notes, and promises to the amount, less expenses, of \$48,346.93. Of this sum \$30,000 were donated to the superintendents of the academy for the purpose of securing a college incorporation, while \$18,346.93 continued to be held in trust by the synod. “Articles of association” were duly filed in May, 1866, and thereafter the “Council of Hope College” had its record among the corporations of Michigan. The council held its first meeting in July, 1866, appointed and inaugurated Rev. P. Phelps, jr., D. D., as president of the college, and added a faculty of four professors and one tutor. A commencement was held July 17, when the first class of eight young men received the degree of A. B., and Holland Academy, as such, came to an honorable end. The following steps were taken:

(1) The council was composed of nineteen members, viz: The president of the college, the secretary of the board of education, R. C. A., one permanent member (Dr. A. C. Van Raalte), and four members each from the four classes of presbyteries of the particular synod of Chicago. The regular meetings were to be biennial, in April and June.

(2) Holland Academy became the primary department of the college. A theological department was also to be added as soon as the general synod should authorize the same and provide for its instruction.

(3) The course of study as adopted was distinctly classical, but general and complete. In the opinion of many it became most truly the expression of a liberal education, and has so continued.

(4) Besides the \$30,000 already mentioned, the free use of the grounds and buildings of the synod at Holland, valued at \$25,000, was vested in the council.

The history of the institution since 1866 may be sketched briefly under the following heads:

THE SEMINARY.

Theological instruction began with the opening of the college in September, 1866. A professor of systematic theology was elected by the general synod in 1867, and provision made for four "lectors" from the college. This arrangement continued until 1877, when the department was suspended. The suspension being removed in 1884, the seminary has since been conducted with a professor and a lector or with two professors, and under a distinct board of superintendents. A theological professorship was endowed 1875-1884.

ORGANIZATION.

In 1869 the Department of Theology was regularly organized and committed to the council. In 1871 a constitution was adopted and printed in full somewhat changing the corporation. Each department had its own faculty and dean, while the president of the college exercised a general oversight. In 1869, another constitution was adopted, changing the structure of the council and making the president head of all the faculties and leaving his election to the general synod. Women have been admitted since 1878, and in 1887 a normal department was opened.

FACULTY AND STUDENTS.

Dr. Phelps-resigned the presidency in 1878, and was succeeded by Rev. G. H. Mandeville, D. D. of New York, for 2 years the administration being in the hands of Prof. Chas. Scott as vice-president. Rev. Charles Scott, D. D., has held the office since 1880. The catalogue of 1888-'89 gives 2 professors in the seminary, 8 professors in the college, 1 tutor in the grammar school, 1 lady assistant and matron. All the departments of study are in charge of experienced instructors, but there is not space for their names and chairs. Two of them have been in the institution since its incorporation in 1866.

In 1866-'67 the number of students was: theological, 7; collegiate, 19; preparatory, 38; total, 64. In 1888-'89 the number became—theological, 8; collegiate, 39; preparatory, 100; normal, 93; total, 240. The current year, 1889, brings 47 into the college classes.¹

In all, 37 have graduated from the seminary, 134 from the college, 89 of whom have studied for the ministry, and 351 from the grammar school. In active life the alumni of Hope honor their citizenship and reflect credit on their alma mater.

¹ In the year 1890-'91 the college catalogue shows 44 students in the collegiate department, and 205 in the grammar school department, the latter including 105 summer normal students.



HOPE COLLEGE, HOLLAND, MICHIGAN.

PERMANENT FUNDS.

1. Held by the general synod in trust:	
Original amount.....	\$18,346.93
Since added	52,204.82
	<hr/>
Total.....	70,551.75
2. Received by the council:	
Original donation for endowment.....	30,000.00
Donations and legacies added.....	32,030.33
Donations and legacies for aiding students for the ministry.....	8,325.00
For property purposes.....	74,424.00
	<hr/>
Total.....	144,779.33
3. The "Ebenezer fund," held by a "board of benevolence," \$36,573, only part of which is invested.	

The property has depreciated, and some endowment "notes" have been lost.

As yet the college has never been self-supporting, but has yearly depended on contingent donations, which have been very liberally bestowed. No burdensome debts rest on the council, and financial agents are now soliciting an addition of \$80,000 to the endowment.

GROUNDS AND BUILDINGS.

The campus has been enlarged to 18 acres, and five new buildings have been erected, among them the president's house. The gymnasium has been turned into a neat and commodious chapel. The council is striving to secure a recitation hall and a library. The number of bound volumes on hand has reached 7,000.

Hope College being the only incorporated college on the east shore of Lake Michigan will, if properly encouraged and developed, become an incalculable blessing to this growing section of the Peninsular State.

ALMA COLLEGE, ALMA, MICHIGAN.

Prepared in December, 1889, by Rev. GEORGE T. HUNTING, D. D., *President of Alma College.*

This institution is the outgrowth of a feeling among the Presbyterians of Michigan that they must have an institution of learning distinctively their own and equal to the best.

While it was founded by and is under the care of the Synod of Michigan, it is not with any narrow meaning a sectarian school, but in the broadest sense consistent with high moral and religious culture, a Christian college. A paragraph or two from its first records will sufficiently explain how the college came to be. At a meeting of the Synod of Michigan held in Grand Rapids, October 14, 1886, the following resolution was adopted :

Resolved, That in view of all the facts brought before us, we will with God's help establish and endow a college within our bounds.

A board of fifteen trustees was at this time elected, to whom the power was given to fill vacancies until the meeting of Synod, and of adding to its number not to exceed five persons. The number of trustees is now twenty. Two notable gifts decided the matter of establishing a college and fixing its location; the first of \$50,000 from Alexander Folsom, esq., of Bay City, and the second of land and buildings valued at \$40,000, situated near the village of Alma, Grand County, Mich., the gift of Mr. A. W. Wright, and the people of Alma.

The doors of the college were opened for the admission of students on the 14th day of September, 1887. There were present at the opening 35 students, a freshman class of 2 young ladies, and the remainder divided between the several classes of a 3 years' preparatory course. The preparatory course has since been extended to 4 years, and at the opening of the year, September 11, 1889, there were present 142 students; a Junior class of 2, a Sophomore class of 4, and a Freshman class of 10. During the year 1888, funds to a considerable amount were added to the permanent endowment of the institution. The more important items are, a bequest of \$30,000 by the late Alexander Folsom, and a pledge of \$10,000 to the library by A. W. Wright.

The income from the entire gift of Mr. Folsom, \$80,000, is devoted to the endowment of the chairs of the president and two professors. Three

other chairs are endowed for a limited number of years by the generosity of J. M. Longyear, of Marquette, and Messrs. Wells, Stone, and Davis, of Saginaw. Liberal gifts from Hon. Thomas Merrill, Hon. N. B. Bradley, Hon. F. W. Wheeler, T. F. Richards, H. P. Christy, and others have enabled the college to meet current expenses, and the institution is in a flourishing condition. Rev. J. Pierson, D. D., has been engaged to serve as librarian, and is now at his post busily engaged in the purchase and arrangement of books, and the promise of a good working library in the near future is very encouraging. The friends of this new educational enterprise are fully aware that a college is not the growth of a day, but they are hopeful, and indeed well persuaded that the success of Alma College, so far as man may forecast the future, is assured. Toward such success they labor, and for it expectant wait.

HISTORY OF DETROIT COLLEGE.

By Prof. B. J. ORTING.

To those who know the importance attached by Catholics to the union of a strictly Catholic training with secular education, it may appear matter of wonder that no Catholic college for young men existed in so old a Catholic center as Detroit until very recent years, when the institution which is the subject of this brief sketch was established. There were various reasons for this delay. Men of means, who for a long period formed but a small minority of the Catholic body, sent their boys to other Catholic centers of learning. Their brethren in the faith fully appreciated the advantages of a thorough education, but individually they were too poor to send their children abroad and collectively they were too few to support a college of their own. Compelled by conscientious motives to build and maintain their own common schools, their slender means forbade all thought of further outlay. But the rapid increase of their numbers and the improvement of their condition gradually removed this obstacle. The question which now remained to be solved was, "Whence shall we secure a competent body of educators?"

Not Detroit alone, but the whole great West as well as the older East, had seen Catholic communities spring up, grow, and flourish with a rapidity which taxed all the resources of the church to meet even the most pressing wants. Though the various religious orders whose special object is the education of the young developed with almost unprecedented rapidity, they found it difficult to keep pace with the rapid onward march of the church's organization throughout the land. Hence the serious question of Detroit's Catholic population, "Whence shall we secure our educators?" The late Bishop Borgess, with his usual energy, set to work to solve this question. In 1877 his efforts were crowned with success. In the spring of that year the Society of Jesus took charge of the then cathedral parish, as a preparatory step to the opening of a college. Preliminary measures were at once taken to begin classes in the following September. No small enterprise this, without a single cent of endowment. But courage and perseverance bridged over the difficulties, and God's blessing was upon the work.



First Building used for Class-purposes A. D. 1877.

DETROIT COLLEGE, MICHIGAN.—FIRST BUILDING, A. D. 1877.

As the college was to be a day school for the Catholic population of Detroit, it was desirable to have its position as nearly central as possible. The parish church, recently assumed by the Jesuits, though not actually near the center of the city, was practically so by means of the street railways, which radiate thence in every direction. Here, then, on Jefferson avenue, was a favorable location. This avenue is one of the finest, if not the finest, in the city. On the south side of the avenue, opposite the residence of the Jesuits, a spacious mansion was very opportunely vacant at the time and in the market. It occupied a lot 100 x 200 feet in extent. This was purchased for \$23,000. In the following year an additional story was needed to provide the necessary recitation rooms. This and other improvements called for a further outlay of \$6,000.

The beginning had been made and like most beginnings it was a modest one. The first year saw 84 pupils on the roll of the preparatory department. The collegiate course proper had not yet been opened. A new class was added each year, until the full seven-year course was complete. The number of students increased constantly. By the end of 1889-'90 it had run up to 279. When the attendance had passed 200 the old quarters began to be uncomfortably crowded and new accommodations became an imperative necessity. Fortune, or rather Providence, again favored the good work. Opposite the college, and hence on the same side of the avenue as the church and the residence of the Jesuit professors, but separated from them by three intervening mansions, a dwelling occupying a lot 53 feet wide by 200 deep was secured for \$13,750. An expenditure of some \$500 for improvements converted this new property into a quite respectable school building; and in May, 1885, the scientific collegiate department took possession of the new quarters. This was the first practical step towards the realization of a plan which had been entertained almost since the very opening of the college and which matured as the necessity of greater class facilities became manifest and the inconvenience and discomfort of being separated from the college by an intervening and much frequented street forced itself more and more on the trustees and professors.

Between this property and the Jesuit residence there were still 150 feet fronting on the avenue. Three private dwellings occupied this ground. Happily the owners took no unfair advantage of the pressing needs of the college, but offered their property at a fair market price. In October, 1886, the first, and in February, 1887, the second of these was purchased for \$15,000 and \$18,000 respectively.

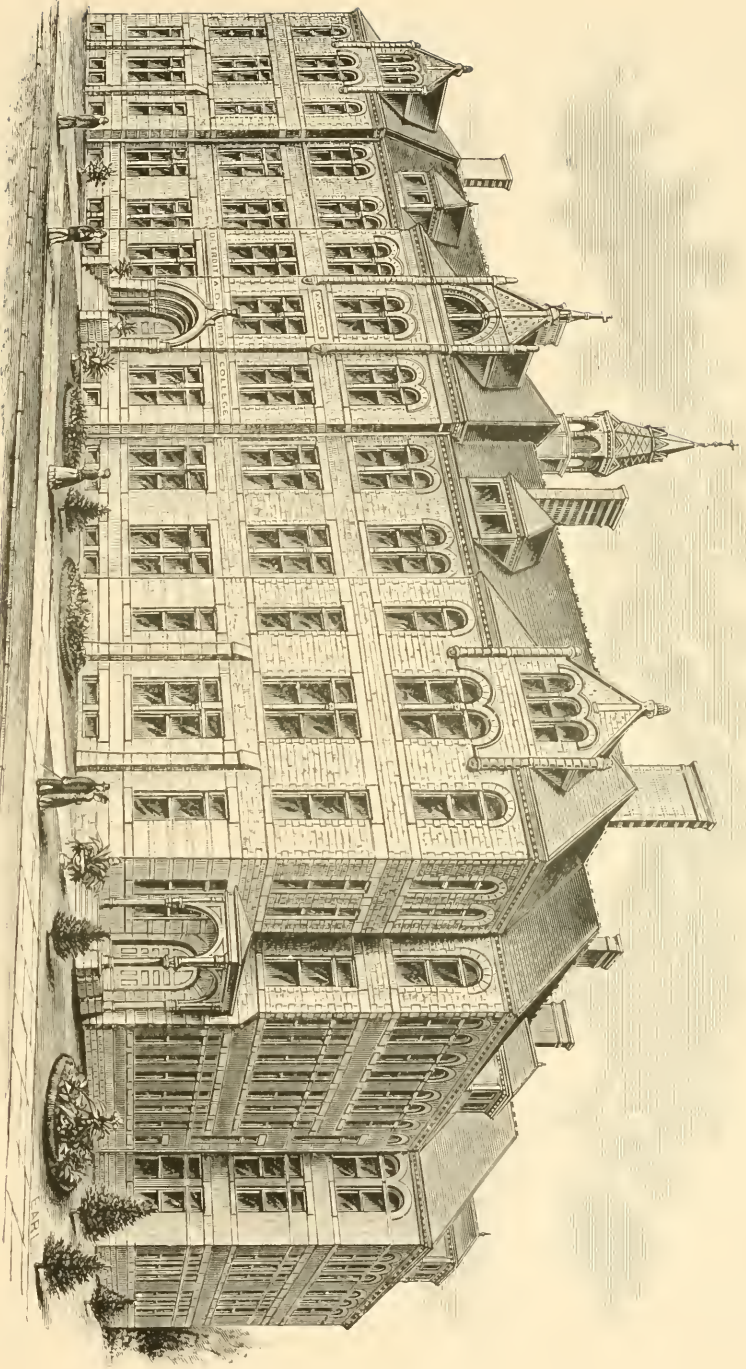
The outlook was constantly brightening, but the end appeared still far off. Already a heavy debt weighed on the college. There was no fixed income save what was derived from the tuition of the students. These were required to pay \$40 per year, when able. Small as was the sum, it was too large for many. Under such circumstances it would

have been ruinous to increase the financial obligations of the college. To an appeal from the president, Rev. J. P. Frieden, six friends at once responded with a subscription of \$5,000 each. This was in January, 1889. Promises of pecuniary help from other quarters soon raised the subscriptions to \$50,000.

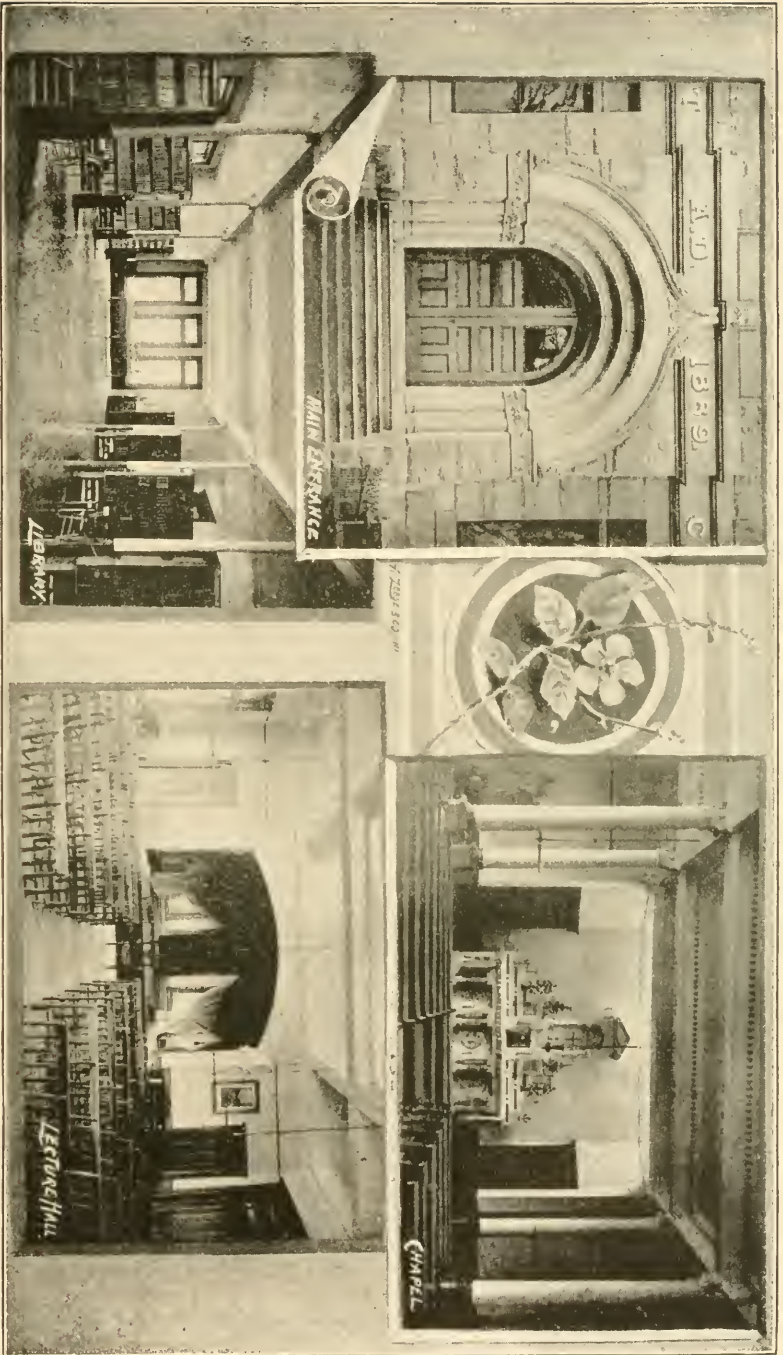
The new college was now placed among the probabilities of the near future. In February, 1889, the last of the three houses mentioned above was bought for \$18,000. Just at this juncture the Rev. J. P. Frieden was called to another sphere of action in the Society of Jesus. Rev. M. P. Dowling, who succeeded him as president, at once entered enthusiastically into the work. Under his direction plans were drawn up by a leading Detroit architect. By the beginning of August the buildings which occupied the site of the proposed college had been removed, and the first stone of the foundation was laid on the ninth of this month. The work progressed rapidly. In spite of some delay caused by the great strike of the carpenters, the building was ready for occupation on the 1st of September, 1890. It has a frontage of 185 feet and varies in depth from 75 to 120 feet. Besides the necessary private rooms for the professors, there are eighteen recitation rooms. The chapel, library, and college hall occupy respectively the first, second, and third floors of a wing measuring 40 by 50 feet. There is not a single dark room in the edifice and the heating and ventilating facilities are the very best.

The greatest difficulties are overcome. Others will rise, but they too will be mastered if the sons of St. Ignatius be as true to their spirit in the future as they were in the past, for the spirit which bids a man forget self and look to no reward in this life but the consciousness of laboring for the common good and through that for the "greater glory of God" can accomplish all things. It may not be out of place to remark, for the information of those who are not familiar with the management of Catholic institutions such as this college, that neither the trustees nor the professors receive any remuneration whatever for their labor in the form of a salary. All they ask and all they accept for themselves is their daily sustenance. More they need not, since by their vow of poverty they have debarred themselves from the right of acquiring the goods of this world. Whatever they receive over and above their moderate wants is devoted to the improvement of the college. This will explain how Detroit College could prosper without an endowment and with but a small income. That it did prosper is apparent from the fact that the faculty of five in 1877-'78 has grown to one of sixteen in 1891.

In other respects, too, the college has been very successful. The rapid increase in the attendance was mentioned above. The average number of graduates has been ten a year. The class of '90, being the sixth to graduate, made the entire number fifty-nine. Most of these are meeting with marked success in their respective careers. Many are still engaged in their professional studies; others have already begun



DETROIT COLLEGE, MICHIGAN—NEW BUILDINGS, 1880-90.



DETROIT COLLEGE, MICHIGAN. MAIN ENTRANCE, LIBRARY, CHAPEL, AND LECTURE HALL—NEW BUILDINGS, 1889-90.

to take a leading position as journalists, lawyers, physicians, and principals of several of our public schools.

A word on the course of studies followed at Detroit College. In all important points it is the same as that generally pursued in colleges of the Society of Jesus. We append a brief sketch of this course, as it appears in an annual catalogue of one of these colleges, adding what is peculiar to Detroit College. The classes of the collegiate department are four in number, corresponding to the freshman, sophomore, junior, and senior years, but known as the classes of humanities, poetry, rhetoric, and philosophy. The preparatory or academic department consists of three classes, known as third, second, and first academic. The plan of studies is based on the idea that a complete liberal education should aim at developing all the powers of the mind, and should cultivate no one faculty to an exaggerated degree at the expense of the others. During the early part of the course, the student's attention is principally devoted to acquiring an accurate knowledge of his native tongue and of elementary mathematics, with all the branches ordinarily taught to boys from 12 to 15 years of age. At the same time the rudiments of the Latin language are mastered, and the study of grammar is thus made from the beginning comparative and analytical. By means of constant oral and written exercises, study is rendered thoroughly practical. In the second year Greek is begun.

As the pupil advances, his judgment is exercised more and more, while less attention is given to mere memory work. When, after three years of preparation, he reaches the college course, properly so called, he is supposed to be able to read with some facility Latin and Greek; to be thoroughly familiar with the grammars of these languages; in a word, to have the tools of literary work in some degree under his control. He then devotes himself more particularly to the cultivation of his literary taste and powers, by reading and imitating the best models of ancient and modern literature. The following year is given to the training of the imagination, the nature of poetry is explained, the technicalities of verse-making are mastered and practiced, and the great poets are carefully studied. Then comes the year of rhetoric, during which the student's critical powers are exercised and developed, poets and prose writers are scientifically analyzed, the principles of oratory are carefully examined, and the speeches of the world's greatest orators are read and discussed. While this literary training has been going on, the course of mathematics has been steadily continued, and natural science, in its various branches, has been taken up, as soon as the development of the mind admitted of its being pursued in a systematic and really scientific way. The last year of the course serves especially to discipline the reasoning faculties by the study of logic, metaphysics, and ethics, and by higher studies in mathematics and natural sciences. During this year great attention is given to metaphysics, a thorough knowledge of which is regarded as of the utmost importance,

since it serves to arrange systematically all the student's knowledge and to furnish the key to all true science. Whatever is important in natural science is taken into the course and taught with a philosophical analysis, intended to guard the student against that confounding of mere information with learning, which is the danger of modern education. Physics, mechanics, geology, general and analytical chemistry, all form important parts of the regular obligatory series of studies.

This course is calculated to develop and train all the powers of the mind, rendering it capable of understanding and appreciating all branches of learning. It serves as a foundation for special training in any branch which the student, with his mind matured and trained, may decide to take up. As, however, there are always some who either can not or will not avail themselves of this regular classical training, another course has been added, which offers facilities for acquiring a good English or commercial education. It is called the commercial course, and is completed in four years. It embraces stenography, book-keeping, an ample course of arithmetic, geometry, and the elements of algebra; and to a complete grammar course it adds the study of style, the principles and practice of the minor species of composition, especially letter-writing, and a course of religious instruction.

French, German, and typewriting are elective both in the regular or classical course and in the commercial course.

Religious instruction is considered of the first importance in the education which Detroit College aims to impart. Hence Christian doctrine forms one of the regular class recitations, and weekly catechetical lectures are attended by all. The prize in this branch is awarded to the author of the best paper upon the matter of these lectures. Further instruction is given to such as have need of it, or are preparing for the sacraments. For the development of piety there is a sodality, which meets weekly. All Catholic students are expected to approach the sacraments at least once a month.

Special attention is given to the study and practice of elocution. Early in the history of the college an association, known as the Philomathic Society, was organized by the older members of the collegiate department. Its object is to promote a taste for literary study and to afford practice in debate and declamation. The exercises at the weekly meetings include dramatic readings, declamations, original essays on subjects selected by a committee, and carefully prepared debates on questions of historical, literary, and philosophical interest.

BATTLE CREEK COLLEGE.

The college is under the direction of the Seventh Day Adventist Educational Society. Nearly all of its energy is given to preparatory work and to manual training. Its establishment was proposed by Mr. James White in 1872, and it was founded and incorporated under State law in 1874. The sum of \$54,000 was pledged for its support and encouragement. Battle Creek was selected as the site for the college, and a campus of beauty and attractiveness was purchased at an expense of \$16,000. A handsome structure was built at once.

The college has prospered materially since its foundation. Its courses as first offered did not include studies much in advance of the ordinary high school, but within the last few years the curriculum has been somewhat extended. The college has good facilities for manual training, and has a culinary department in which students are given regular instruction and have practice in the art of cookery.

The president has apparently not made annual reports to the State. In his report for 1885 the estimated value of the property of the college was \$65,611.94.



COMMON SCHOOLS

AND

SECONDARY EDUCATION

IN

MICHIGAN.

COMMON SCHOOLS AND SECONDARY EDUCATION.

It has not been the intention of the preceding sketch to give in any detail a history of the common schools or of secondary education in Michigan. Such a task would demand much greater space and a different system of treatment. But Michigan has been so fortunate in its common-school system, the broad foundation for higher education is so securely laid, that a word in conclusion seems appropriate.

Judge Thomas M. Cooley, in his "Michigan," thus fitly refers to the early preparation for present conditions :

If the general education of the people is important to the State, Michigan was fortunate in the persons to whom the destinies of the Territory were committed in its early days. In their minds, as we find them expressed in the laws they adopted and the institutions they founded, two ideas appear to have been dominant from the earliest period. These were, that the means of rudimentary education should be placed within the reach of every child in the political society, and that the opportunity for thorough culture should be given as speedily and as completely as the circumstances of the people would permit. And these ideas were never lost sight of until effect was given to them after the admission of the State to the Union.

After tracing the development of the educational facilities of the State, and giving credit to General Cass for his broad and advanced suggestions of free education and to Mr. Crary and Mr. Pierce for their labors, Judge Cooley concludes :

Such is the educational system of Michigan. Its founders took position in advance of the thought of the day, and those who followed them have endeavored to give effect in full measure to their views. No commonwealth in the world makes provision more broad, complete, or thorough for the general education of the people, and very few for that which is equal. It has been the settled conviction of the people for many years that there can be no more worthy expenditure of public moneys than in the training of men and women in useful knowledge, and they have acted upon that conviction. The newer States of the Union, in framing their educational systems, have been glad to follow the example of Michigan, and have had fruitful and satisfactory success in proportion as they have adhered to it. And for all that has been accomplished, Michigan is indebted to the intelligence, the unselfishness, and the farseeing wisdom of some of its own eminent citizens, who, with the public confidence for their support, have not waited for older but more provincial States to point the way, but have trustfully moved on from step to step in the direction of an ideal excellence, which was early in their minds and has been steadily adhered to since.¹

Michigan has slowly developed her educational system. At first giving few opportunities for common education, her laws now make

¹ See "Michigan," by Thomas McIntyre Cooley, pp. 306-7 and 328-9.

education compulsory, on the theory that enlightenment is not only a privilege but a duty, and that citizens of a free country must be intelligent.

The history of the common-school system goes back to the famous law of 1787. By the act of 1804 Congress reserved section 16 in each township for the support of schools. In 1805 Michigan was organized as a Territory, and in 1828 these lands were placed under the charge of the Territorial government. The law admitting Michigan confirmed this reservation.

These lands, like the university lands, were not always disposed of to best advantage. In 1829 a department of education was established in the Territory, and thus Michigan gave evidence again of a readiness to acknowledge the public interest in education and to prepare for the proper use of the funds arising from the sale of these school lands. Mr. Pierce, the first superintendent of public instruction in the new State (1837), had the interests of the common schools at heart and breathed into them much of his own enthusiasm and courage. But as yet the schools were poor, weak things, only partly assisted by public taxes. The children of the poor were educated at public expense, even during the Territorial period, after 1827; but it was more than 40 years after this date that the old rating system entirely disappeared.

Principal Sill well says: ¹

The present condition of the primary school fund and the history of its helpfulness to free education in our State are a splendid and enduring memorial to the farseeing wisdom of the men who framed this proposition to Congress and gained its assent thereto. All the States since admitted have seen the wisdom of adopting the plan first devised and put in practice in Michigan.

We can not enter into a detailed account of the vicissitudes of the fund derived from the sale of section 16. The money derived from the sale of school lands and from escheats to the State, which by law go to swell the primary fund, amounted June 30, 1889, to \$3,722,286.06. This sum includes \$196,284.38 due from purchasers: for the State credits immediately to the school fund the price at which lands have been sold, even before all has been paid in.

The State has become a permanent borrower of the money received from the sale of school and university lands, paying 7 per cent. interest. The interest and the principal are thus secure, and while acknowledgment is made for the principal received from the General Government, it must not be forgotten that this large interest is paid annually by State taxation. Moreover, in 1858 the primary school 5 per cent. fund was established. In accord with this act the State pays to the school districts 5 per cent. on one-half of the money received from sale of State swamp lands.

¹ University of Michigan, Semicentennial, p. 200.

Another very important addition to the State school fund became available for the first time in 1881. Section 1, Article XIV of the constitution of Michigan provides as follows:

All specific taxes, except those received from the mining companies of the Upper Peninsula, shall be applied in paying the interest of the primary school, University, and other educational funds, and the interest and principal of the State debt in order herein recited, until the extinguishment of the State debt, other than the amounts due to educational funds, when such specific taxes shall be added to and constitute a part of the Primary School Interest Fund.

In 1881 it was decided that the debt was paid, and the school districts began to receive the income from these specific taxes. The first year in which this increase came the school districts received \$1.06 for each child of school age, whereas the previous year they had received but 47 cents.

This money is divided among the school districts in proportion to school population, each person between the ages of 5 and 20 being enumerated to determine that population.

The following tables, taken from the report of the superintendent of public instruction for 1889, will show how much money is expended directly by the State for common-school education and the amount held by the State for permanent funds. It must be understood that this does not include local taxation for school support:

The Primary School Funds.

Primary school 7 per cent. fund:	
In the hands of the State June 30, 1889	\$3,526,001.68
Due from purchasers of lands June 30, 1889.....	196,284.38
	<hr/>
Total 7 per cent. fund June 30, 1889.....	3,722,286.06
Primary school 5 per cent. fund:	
In the hands of the State June 30, 1889.....	793,358.42
Due from purchasers of lands June 30, 1889.....	14,032.96
	<hr/>
Total 5 per cent. fund June 30, 1889.....	807,391.38
	<hr/>
Total school funds June 30, 1889.....	4,529,677.44

Primary School Interest Fund.

Interest paid by the State on 7 per cent. fund.....	244,292.35
Interest paid by holders of lands on 7 per cent. fund.....	16,456.46
	<hr/>
Total interest on 7 per cent. fund.....	260,748.81
Interest paid by State on 5 per cent. fund.....	39,434.15
	<hr/>
Total income from both funds.....	300,182.96
Surplus of specific taxes transferred.....	522,200.33
Rent of land.....	1.00
Paid by trespassers on school lands.....	15.00
	<hr/>
Total primary school interest fund.....	822,399.29

In 1889 the school districts received from the State \$1.47 per child of school age. In that same year the school districts expended for all purposes \$5,280,409.08, or something over \$12 for every child enrolled. It will thus be seen that despite the magnificent fund which Michigan holds for the support of her common schools a much greater amount is

given by direct taxation. From the time the school system of Michigan was organized a township tax for school purposes has been levied. At the present time this is a one-mill tax.

COMPULSORY EDUCATION.

The preceding figures are only roughly suggestive of what the State has been willing to do for common education. Just a word concerning the efficacy of the compulsory law may be of interest. Not until 1869 did the legislature carry into effect the provisions of the constitution of 1851, abolish the old and abominable rate-bill system, and establish completely free education. Since that time there has been absolute freedom. In 1883 the State went further, and passed an act requiring that parents or guardians of children between the ages of 8 and 14 should be required to send such children to a public school for at least four months in each school year. The school public throughout the United States is interested in this problem, and a few figures and statements of Michigan's success or failure may be helpful. In the first place it may be stated that a law merely declaratory, as is the act of 1883, is of little value. In the second place it is apparent that a mere tentative law, unsupported by awakened public opinion, is of little value. Principal Sill proclaimed (1886) in his address above referred to, "compulsory laws are, in this State, a dead letter." He called for the vivifying of them, for the arousing of the people to the situation. The problem is no easy one, and figures fail to show the exact condition. The superintendent of public instruction estimated in his report for 1889 that not far from 91 per cent. of the children from 8 to 14 were receiving some kind of instruction. Between 1880 and 1889 there has been an evident decrease in the percentage of pupils attending public schools, reckoned on the basis of the school census, which includes all children between 5 and 20 years of age. There was a decrease of 5.4 per cent. in schools of all kinds in these years; and this in spite of the fact that the compulsory law was passed in this decade.

In the fifty incorporated cities in the State, according to the report of the superintendent of public instruction (1889), the average decrease in attendance is 14.5 per cent. This, it must be remembered, does not include simply those to whom the compulsory law applies. And it must be remembered also that apparently there has been a small increase in the attendance at private schools; a result quite to be expected as the State develops in wealth and in density of population. Michigan, boasting justly of its liberality and means of education, has still a task before it in overcoming ignorance and making its spirit felt among the thousands of foreign immigrants—Hollanders, and Germans, and especially Poles, Swedes, and Norwegians—who pour into the State.

Statistics show that efforts to accomplish this end and to train up American citizens are not wanting. The people of the State have not let

their energies flag. Schoolhouses increased 65 in number in 1889, making 7,493 houses in all. The school districts of the State owned in 1889 property worth \$13,386,637, an increase of over \$500,000 in a year.

I should gladly add to this sketch an account of the various private seminaries and academies in the State. The people willingly supporting the public school have never done aught but encourage the private institution where work is faithfully done. The University of Michigan stands ready to add to its diploma lists private schools whose curricula and methods win fair and candid approbation. The Michigan Military Academy, at Orchard Lake, has by its high grade of scholarship and its strenuous efforts for the best success achieved a place second to none in the country. Col. J. Sumner Rogers, the superintendent has given rare executive force to the building up and equipment of the school, and Prof. W. H. Butts, the principal, a teacher of rare ability, has shown marked skill and tact as an organizer. The Raisin Valley Seminary and the Michigan Female Seminary are on the diploma list of the university. Other seminaries of this same grade are doing good work. The report of the superintendent of public instruction for 1889 includes reports from the Detroit Home and Day School, The German American Seminary, and the Spring Arbor Seminary.



1837 / 277949
34
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